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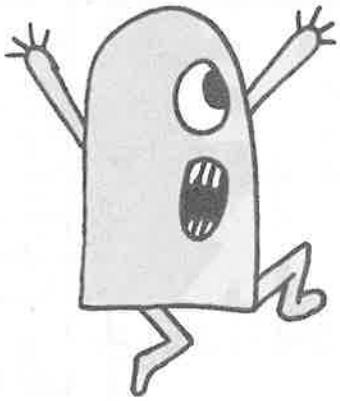

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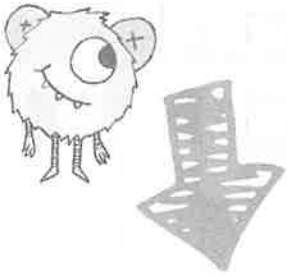

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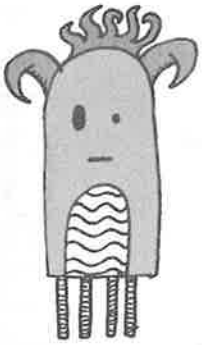

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BRAIN HUNTER

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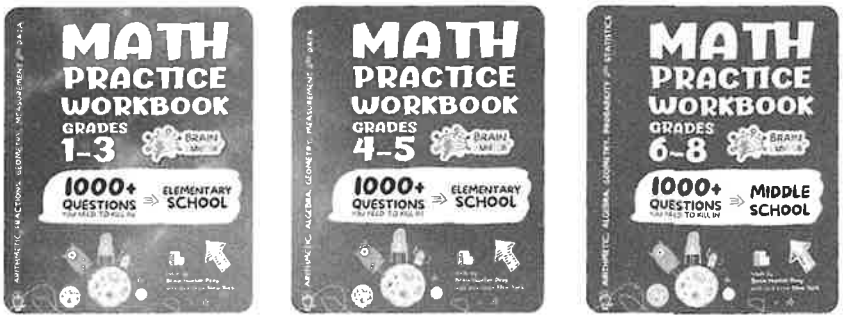

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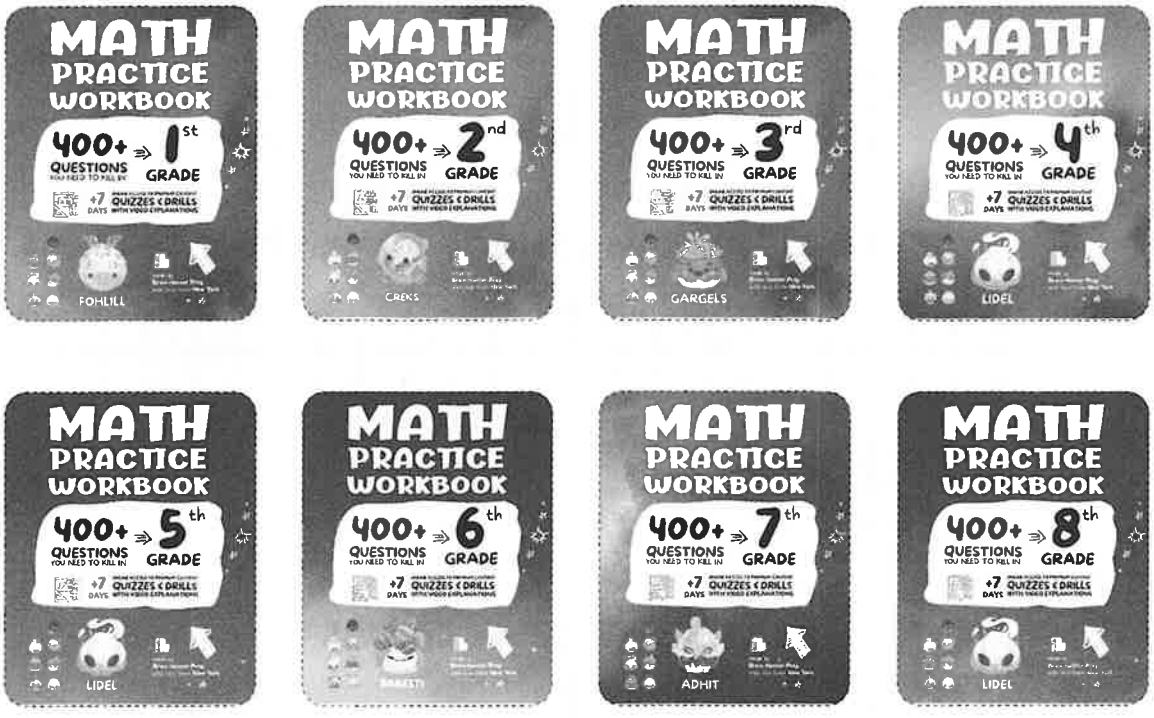

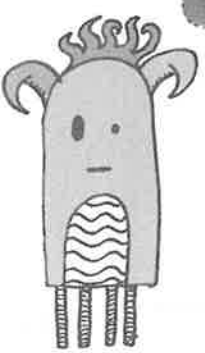

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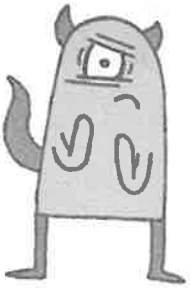

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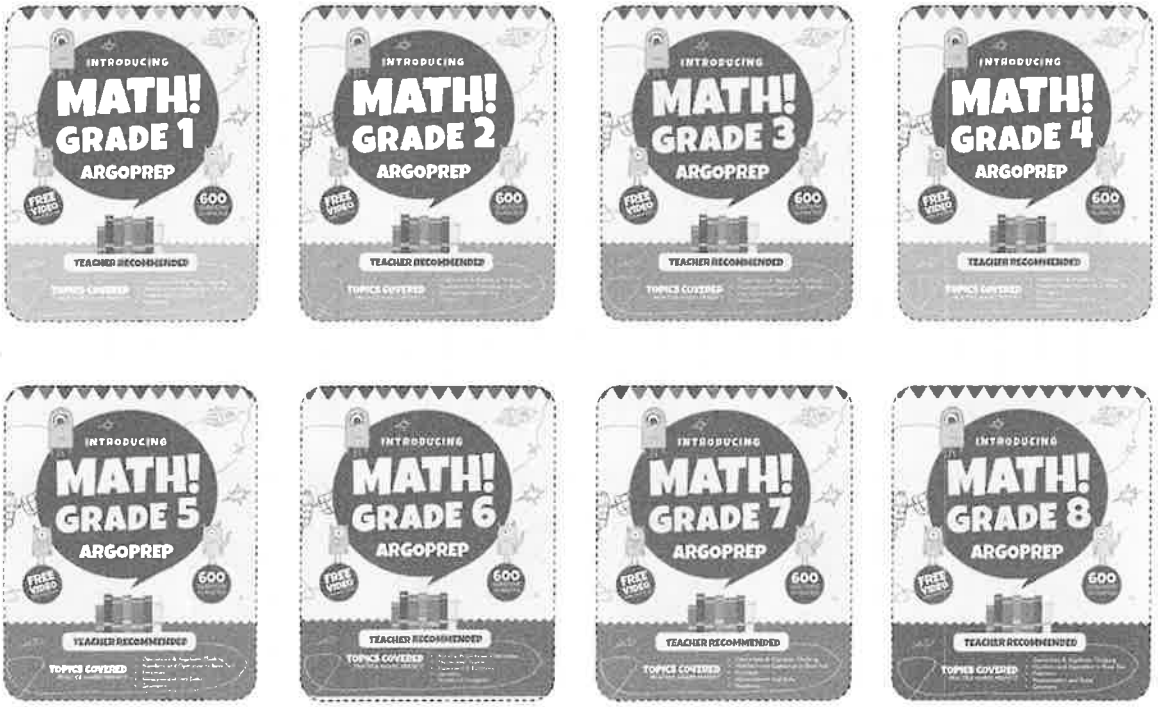

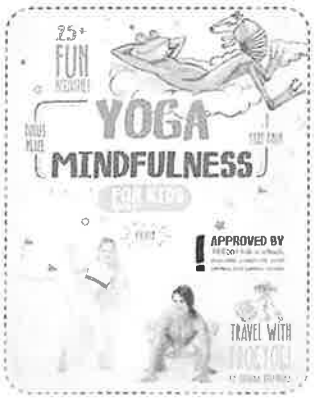

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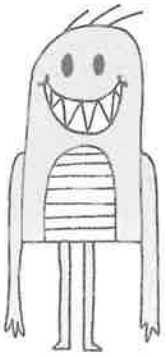

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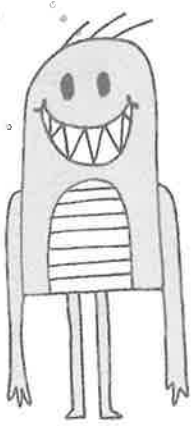

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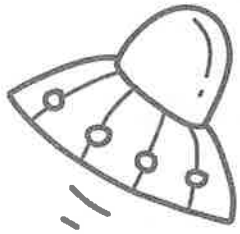

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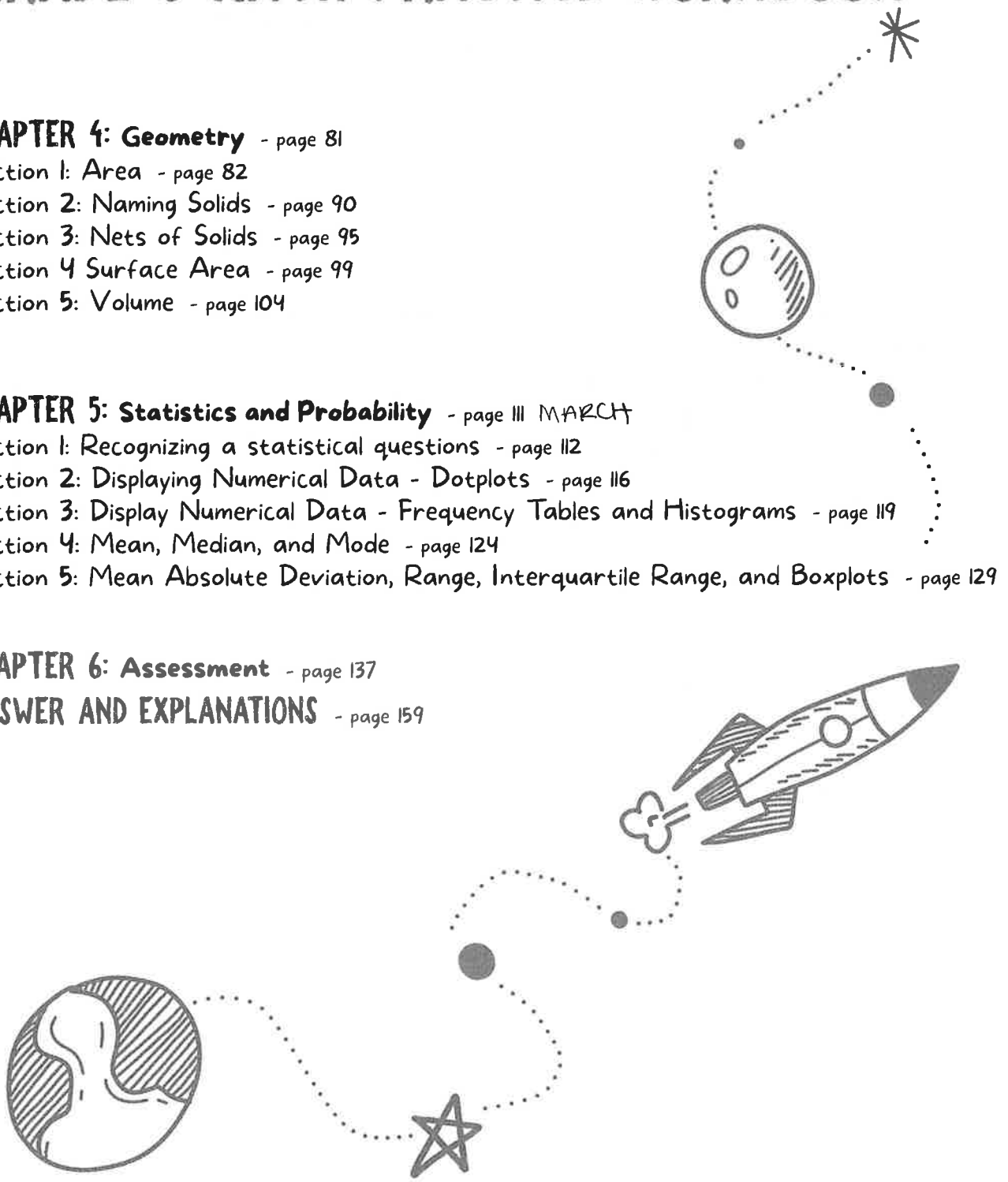


BRAIN HUNTER

CHAPTER 1

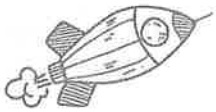
GRADE 6

BRAIN HUNTER

1. Give an example of a real world ratio using the ratio 4 : 1.

2. Give an example of a real world ratio using the ratio 1 : 365.

3. Give an example of a real world ratio using the ratio 10 : 100.

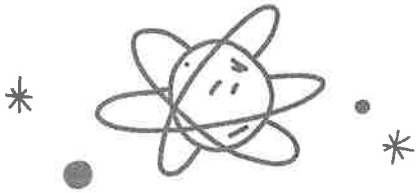


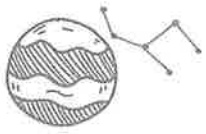
For numbers 4-6, tell if the statement is true or false. If the statement is false, rewrite the statement to make it true.

4. True or False. An example of the ratio 2 : 10 is 2 dimes represent 10 cents.

5. True or False. An example of the ratio 300 : 3 is 300 years represents 3 centuries.

6. True or False. An example of the ratio 40 : 480 is 40 inches represents 480 ft.



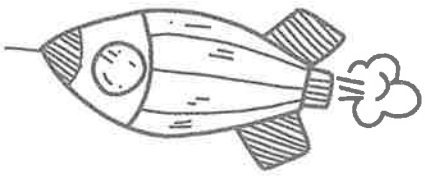


7. What is the ratio of squares to triangles?

A. 5 : 15
B. 15 : 5
C. 8 : 12
D. 12 : 8

8. What is the ratio of circles to stars?

A. 7 : 5
B. 4 : 7
C. 5 : 7
D. 8 : 4



BRAIN HUNTER

9. What is the ratio of circles to triangles?

A. 19 : 8
B. 8 : 19
C. 16 : 11
D. 11 : 16

10. What is the ratio of squares to stars?

TIP: Remember a ratio is a relationship between two numbers. A ratio can be written with a colon or as a fraction.

11. What is the ratio of squares to circles?

12. Which represents a ratio for the given information?

basketball points = 35, baseball points = 3

A. For every 35 baseball points, there were 3 basketball points.

B. For every 3 basketball points, there were 35 baseball points.

C. The ratio of basketball points made to baseball points was 35 : 3.

D. The ratio of baseball points to basketball points was 35 : 3.

BRAIN HUNTER

13. Which represents a ratio for the given information?

wood boards used = 189, dog houses built = 9

A. The ratio of dog houses built to wood boards used was 189 : 9.
B. For every 9 dog houses built, there were 189 wood boards used.
C. The ratio of wood boards used to dog houses built was 9 : 189.
D. For every 189 dog houses built, there were 9 wood boards used.

14. Which represents a ratio for the given information?

neighborhood cats = 14, neighborhood dogs = 28

A. For every 28 dogs, there are 14 cats.
B. The ratio of dogs to cats is 28 : 14.
C. Both a & b
D. Neither a or b

15. Which represents a ratio for the given information?

small drinks = 3, large drinks = 4

A. For every 3 small drinks sold, there are 4 large drinks sold.
B. The ratio of large drinks to small drinks sold is 3:4.
C. For every 4 small drinks sold, there are 3 large drinks sold.
D. The ratio of small drinks to large drinks sold is 4 : 3.

16. Which represents a ratio for the given information?

laps swam = 6, laps ran = 19

A. For every 19 laps ran, there were 6 laps swam.
B. The ratio of laps ran to laps swam is 6 : 19.
C. For every 6 laps ran, there were 19 laps swam.
D. The ratio of laps swam to laps ran is 19 : 6.

17. For every 3 male puppies, there are 7 female puppies. What is the ratio of males to females?

A. 7 : 3
B. 3 : 7
C. Both a & b
D. Neither a or b

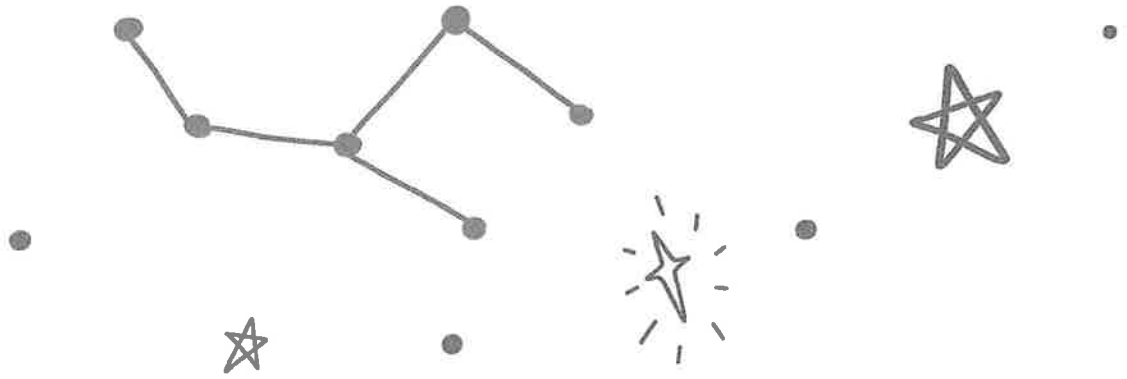
18. The ratio of teaspoons of ketchup on a hot dog to mustard is 2:1. For every _____ teaspoons of ketchup, there is _____ teaspoon of mustard.

TIP: The order of a ratio is important. The ratio 2:3 expresses a different relationship than the ratio 3:2.

19. The ratio of WiiU games to PS4 games Dallas owned was 12:14. For every _____ WiiU games she owned she had _____ PS4 games.

A. 12, 14
B. 14, 12
C. Both a & b
D. Neither a or b

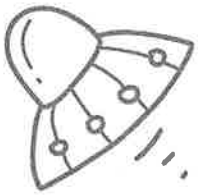
20. At the frozen yogurt shop the ratio of swirl cups sold to vanilla cups sold was 18:3. For every _____ swirl cups sold, there were _____ vanilla cups sold.



21. At the movie theater, the ratio of small drinks served to large drinks served was 9:4. For every _____ large drinks served, there are _____ small drinks served.

A. 9, 4
B. 9 to 4
C. 4, 9
D. None of the above.

22. During the school election, the ratio of votes for Alexandria to votes for Franklin was 3:2. For every _____ votes Alexandria got, Franklin got _____.



23. For every 3 cups of honey, 8 bottles of barbecue sauce can be made. Complete the table showing the bottles of barbecue sauce that can be made with up to 9 cups of honey.

HONEY	BOTTLES
3	8
6	
9	24

24. Every box of chips has 22 bags. Complete the table showing the bags of chips up to 4 boxes.

BOX	BAGS
	22
2	
3	
	88

25. Each t-shirt cost **$10.00**. Complete the table showing the price for up to **3** school t-shirts.

T-SHIRTS	COST
1	10
	20
3	

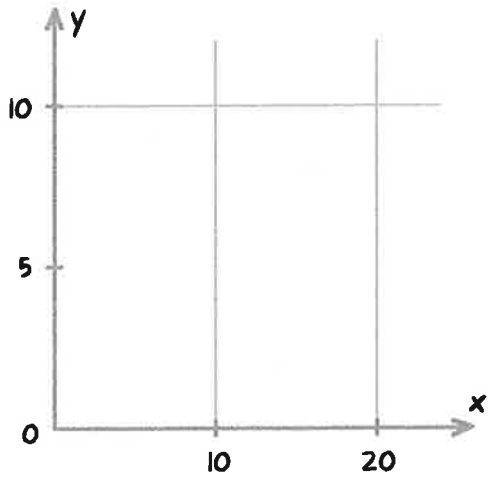
26. For every **3** books read during the summer, students receive a **$15** gift card. Complete the table that shows the amount earned in gift cards for reading up to **12** books.

BOOKS	GIFT CARDS
3	15
6	
	45
12	60

TIP: Ratio tables show you the relationship between different ratios. Analyze the ratio table and find the patterns to find the missing number.

27. For every 6 cups of flour, 3 cakes can be made. Create a table and then plot the values on the coordinate plane that shows the number of cakes that can be made with up to 24 cups of flour.

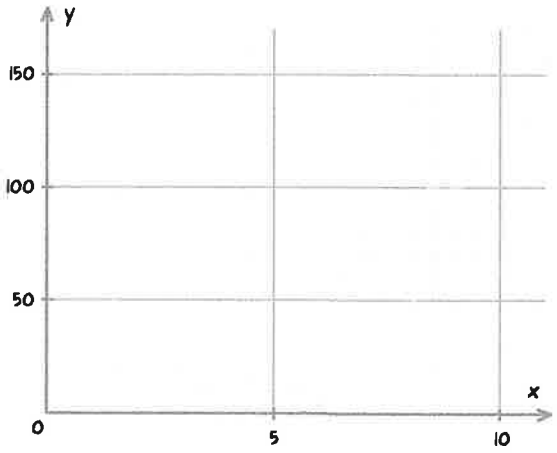
CUPS OF FLOUR	CAKES
6	
12	
18	
24	

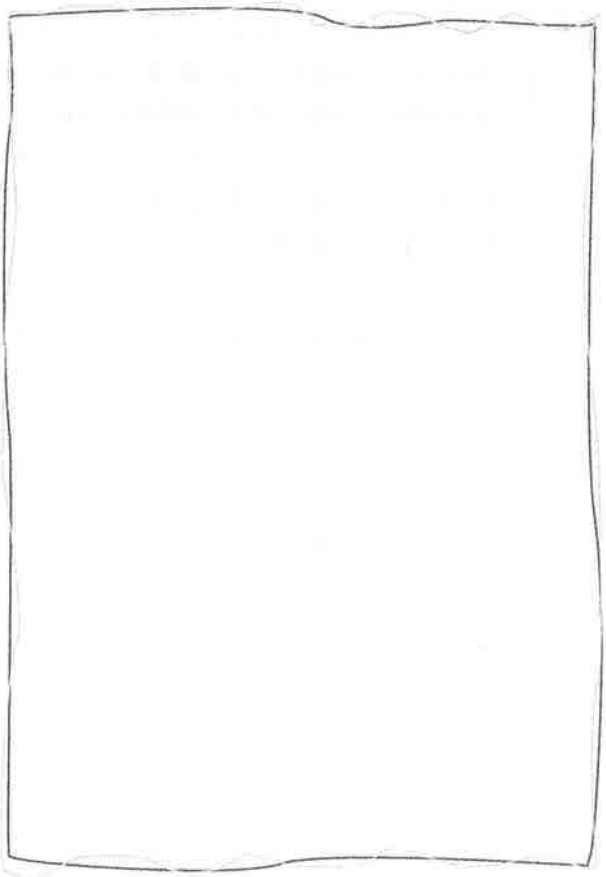


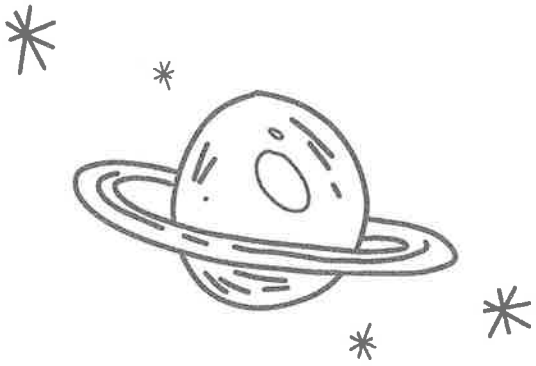
BRAIN HUNTER

28. Every bag of gummy bears has 19 pieces of candy. Create a table and then plot the values on the coordinate plane that shows the number of gummy bears in up to 8 bags.

BAGS	PIECES
2	
4	
6	
8	

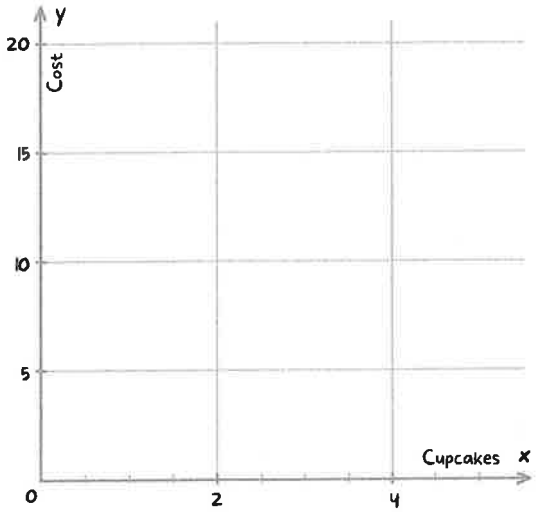


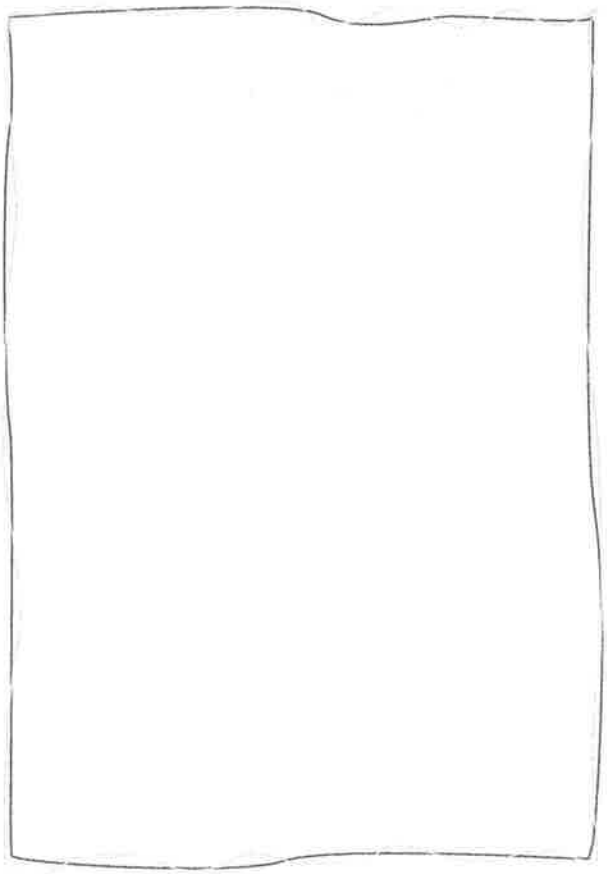


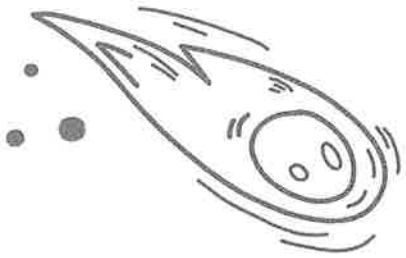


29. Each cupcake costs $4. Create a table and then plot the values on the coordinate plane that shows the cost for up to 4 cupcakes.

CUPCAKES	COST

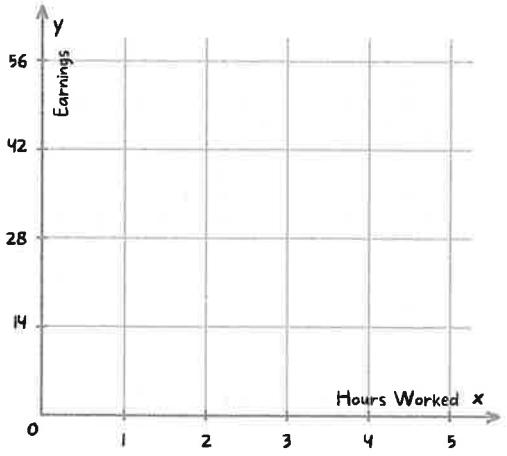






30. For every hour worked as a lifeguard, $14 are earned. Create a table and then plot the values on the coordinate plane that shows the money earned for working up to 4 hours.

HOURS	EARNINGS



TIP: A rate is a ratio where the two terms are in different units such as 2 pounds of grapes costs $4.88. The rate is 2 pounds for $4.88 and the unit rate is 1 pound for $2.44.

31. Fill in the blank. We paid **$35** for 7 pizzas, which is a rate of $ ____ per pizza.

A. 7
B. 35
C. 5
D. 1

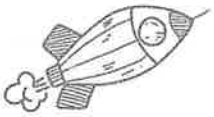
32. The pet store sold **210** goldfish in the last **5** weeks. What is the rate sold per week?

A. 105
B. 210
C. 5
D. 42

33. For every 3 miles Lee swims, Eric swims 9 miles. If Lee swims 1 mile, how far did Eric swim?

A. 1
B. 3
C. 9
D. 27

BRAIN HUNTER



34. A seamstress used 15 meters of lace to make 3 dresses. She used ____ meters for each dress.

35. A candy company used 10 gallons of sugar to make 5 batches of candy. What is the rate of sugar per batch?

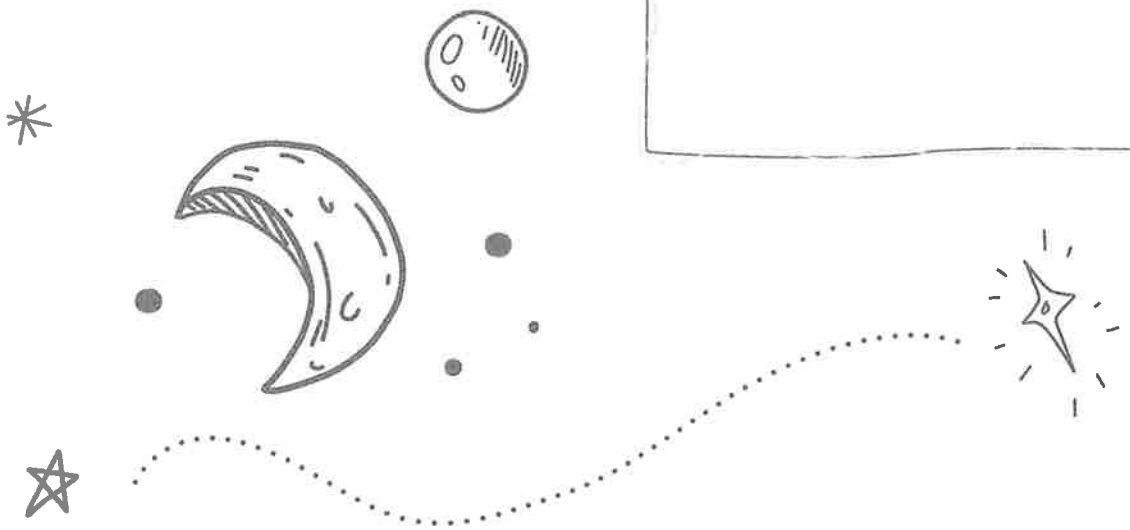
36. Amanda used 4 cups of flour to make 48 cake pops. She used ____ cup of flour to make 12 cake pops.

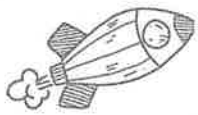
37. A math tutor worked for 30 hours and earned $ 1500, which is a rate of $ ____ per hour.

38. The "Candytopia" owner made $ 84 when a group of 3 people entered the pop up shop, which is a rate of ____ dollars per person.

A. 3
B. 28
C. 84
D. 81

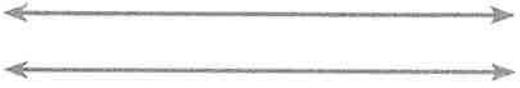
39. A marathon runner ran 30 miles in 3 days. What is the rate she traveled per day?



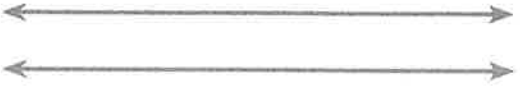


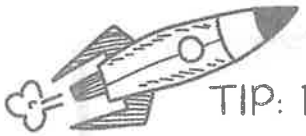
40. A store sells 3 apples for $ 1.00. If Lisa buys 15 apples, use the double number line to show how much money she spends.

41. For the cheerleading fundraiser, for every 10 boxes of cookies sold, 20 points are earned. If 50 boxes were sold, use the double number line to show how many points were earned.



42. Working at the local department store each weekend pays $ 12.50 an hour. If you are paid $ 75 for the weekend, how many hours did you work?





TIP: Double number lines are used to visualize the ratio relationships between two numbers and work well when the units are different. Remember to line up ratios on the number lines and find the pattern for equivalent ratios.

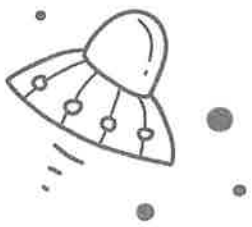
43. Find the unit rate of 75 gallons of water in 25 bottles.

44. Find the unit rate of 12 inches of rain in 3 days.

45. Find the unit rate of 64 customers in 8 drive thru lanes.

46. Find the unit rate of $ 2100 earned in 3 weeks.

A. $ 2100/week
B. $ 3/week
C. $ 700/week
D. $ 0.0014/week



47. Find the unit rate of 276 TV channels for $ 92.

48. Find the unit rate of $ 100 for 2 amusement park tickets.

A. 50 dollars per ticket
B. 100 dollars per ticket
C. 1 dollar per ticket
D. 2 dollars per ticket

49. Find the unit rate of 1026 customers over 9 days.

50. Find the unit rate of 270 students in 9 classrooms.

A. 270 students per classroom
B. 30 students per classroom
C. 270 classes per student
D. 30 classes per student

51. Find the unit rate of 9 hours to drive 810 miles.

52. Find the unit rate of a movie that grossed $ 40,000,000 for the first 50 days.

A. $ 800,000/day
B. $ 40,000,000/50 days
C. $ .00000125/day
D. $ 50/day

53. The cost of 3 gallons of orange juice is $ 8.04. What is the unit price (per gallon)?

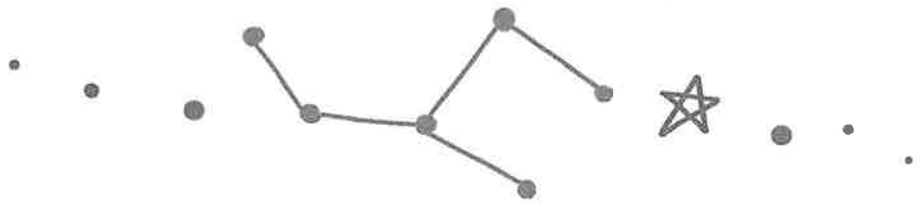
A. $ 2.68
B. $ 24.12
C. $ 8.04
D. $ 3.00

54. The cost of 4 skirts is $ 128. Find the cost of each skirt.

A. $ 4
B. $ 128
C. $ 32
D. $ .03

55. Dr. Paula sees 90 patients in 5 days. How many patients does she see per day ?

A. 5
B. 90
C. 85
D. 18



TIP: Unit Rates can be found by dividing the first term of the ratio by the second term. For example, Lauren pays $153 for 3 dance classes. The unit rate is $153 ÷ 3 = $51 for each dance class.

56. A store had 5 packs of paper for $ 5.75. How much would it cost if you were to buy 6 packs?

57. At the hockey stadium the price for hot dogs is $ 9.66 for 3. If you wanted to buy 9 hot dogs, how much would it cost?

58. A yacht travels 45 miles in 60 minutes. How far does the yacht travel per minute ?

59. Martin signs up for karate classes and pays $ 180 for 9 classes. Find the cost per class.

60. DSW is having a summer school sale where 2 pair of sandals are $86.98. If Marshall decides to buy 6 pairs of shoes, how much would he pay?

61. At a local pop up market, Dan is selling a set of 4 bracelets for $ 42.44 and Jane is selling a set of 5 bracelets for $ 52.75. Which vendor has the higher unit price?

62. Ron is paid an hourly rate. He made $ 315 working 30 hours. Next week he plans to work 35 hours. How much will he earn?

A. $ 367.50
B. $ 270.00
C. $ 321.00
D. $ 420.50

63. A survey shows the ratio of tourists in Times Square who had video cameras was 4 out of 5. Another survey found that the same ratio had video cameras at the Lincoln Monument. If the ratios are equivalent, what could be the ratio at the Lincoln Monument?

A. 16 : 15 **C.** 15 : 20
B. 40 : 6 **D.** 8 : 10

64. During the rodeo carnival, the ratio of people who won the dart game to those that lost was 16 : 10. If 48 people won, how many people lost?

A. 26 **C.** 48
B. 30 **D.** 3

65. A mall parking garage has 60 taken spaces. If the ratio of empty spaces to taken spaces is 8:15, how many spaces are there total?

A. 23 **C.** 92
B. 60 **D.** 32

66. Which ratio is equal to 15 : 20?

A. 3 to 4
B. 18 : 25
C. 21 to 28
D. 24 : 30

67. Simplify the ratio 45 : 20.

68. Ms. Wiley's class has 24 students, of which 8 are girls. What is the ratio of girls to boys in simplest form.

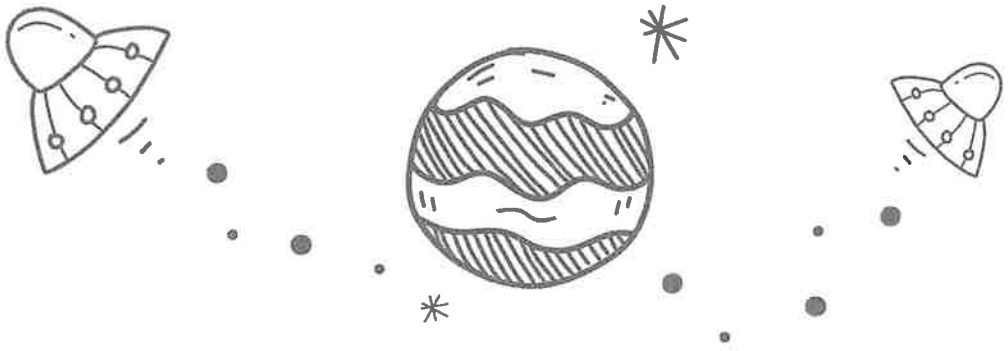
A. 16 : 8
B. 1 : 2
C. 8 : 24
D. 16 : 24

TIP: To simplify a ratio find the greatest common factor and divide both terms in the ratio by the GCF. For example, to simplify the ratio 10:25, the GCF is 5. The simplified ratio of 10:25 is 2:5.

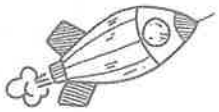
69. Simplify the ratio 2 : 16.

70. Simplify the ratio 35 : 28.

71. Leslie receives 120 texts on Monday morning. She responds to 60 of the text. What is the ratio of texts that Leslie received to the texts that she answered in simplest form?



BRAIN HUNTER



72. The Earth takes 24 hours to rotate and the moon takes 27 days. What is the ratio of the time taken by the moon to the time taken by the Earth to rotate in simplest form in hours?

A. 24 to 27
B. 24 : 648
C. 27 : 1
D. 27 to 24

73. Simplify the ratio 14 : 63.

A. 2 to 9
B. 14 to 63
C. 63 : 14
D. 9 : 2

74. Simplify the ratio 27 : 36.

75. 12 inches = 1 feet, and can be expressed as 12 x f = n where f = feet and n = inches. Use the equation to find the total inches in 9 feet.

76. 1000 meters = 1 kilometer. Set up an equation to express this ratio where k = kilometers and m = meters.

77. 2 pints = 1 quart. Set up an equation to express this ratio where q = quarts and p = pints. Use the equation to find the total pints in 8 quarts.

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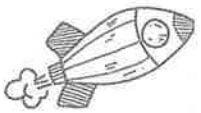
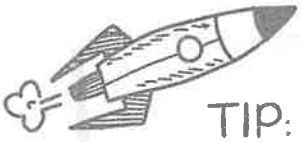


78. 5 nickels = 1 quarter. Set up an equation to express this ratio where q = quarters and n = nickels. Use the equation to find the total nickels in 20 quarters.

79. 16 ounces = 1 pound. Set up an equation to express this ratio where p = pounds and u = ounces. Use the equation to find the total ounces in 3 pounds.

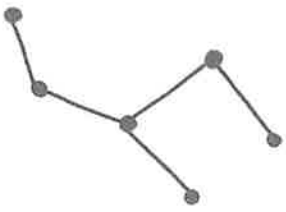
80. 3 feet = 1 yard. Set up an equation to express this ratio where y = yards and f = feet. Use this equation to find the total feet in 9 yards.



TIP: Ratio tables can also be used to find missing measurements. This works for the metric and standard measurement systems.

CHAPTER 2

GRADE 6



BRAIN HUNTER

Find the quotient.

1. $5\frac{8}{9} \div 7$

A. $\frac{53}{63}$ C. $1\frac{1}{9}$

B. $41\frac{2}{9}$ D. 5

2. $4\frac{1}{2} \div \frac{3}{2}$

A. $4\frac{1}{2}$ C. $6\frac{3}{4}$

B. 3 D. $3\frac{5}{9}$

3. $2\frac{1}{3} \div \frac{3}{2}$

A. $1\frac{5}{9}$ C. $\frac{1}{4}$

B. $3\frac{5}{5}$ D. $\frac{4}{5}$

4. $2 \div 1\frac{4}{7}$

A. $\frac{2}{7}$

B. $\frac{1}{3}$

C. $5\frac{5}{6}$

D. $1\frac{3}{11}$

5. $4 \div \frac{1}{2}$

A. $\frac{1}{8}$

B. 8

C. $3\frac{1}{2}$

D. $\frac{4}{9}$

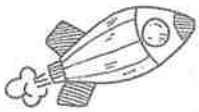
6. $\frac{1}{8} \div \frac{9}{5}$

A. $\frac{5}{72}$

B. 1

C. $1\frac{37}{40}$

D. $5\frac{1}{8}$

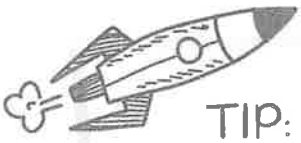


7. $\frac{5}{8} \div \frac{11}{6}$

8. $\frac{2}{3} \div \frac{3}{2}$

9. $\frac{4}{3} \div 3\frac{1}{3}$

10. $\frac{1}{3} \div 4\frac{5}{9}$

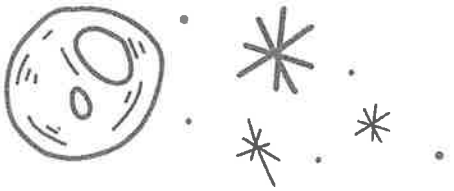


TIP: To divide fractions, find the reciprocal of the second fraction by flipping it, then multiply straight across.

11. There are 24 students in the class and $2\frac{1}{4}$ pounds of fudge. If the fudge is divided equally among the students, how many pounds will each student get?

12. Cy has $\frac{5}{8}$ of a pound of doggy treats buried evenly in 3 holes in the backyard. How many pounds of doggy treats are in each hole?

13. Claudette has $\frac{3}{5}$ of a pie. She divides a piece of pie between her 6 nephews. How much of the cake will each nephew get?



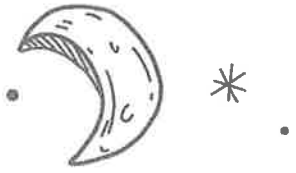
BRAIN HUNTER

Find the quotient using the number line.

14. $2 \div \frac{1}{3}$

15. $4 \div \frac{2}{3}$

16. $3 \div \frac{7}{8}$



Find the missing number to make the equation true.

17. 1,947 ÷ 11 = _____

18. 2,256 ÷ 16 = _____

19. _____ ÷ 2 = 298

20. 1,352 ÷ 13 = _____

21. 1,764 ÷ 12 = _____

22. 3,549 ÷ 21 = _____

BRAIN HUNTER

Find the sum, difference, quotient, or product to the nearest thousandth.

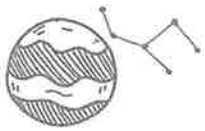
23. $62 + 33.215 =$ _____

24. $2.558 \times 1.675 =$ _____

25. $27.75 \div 3.9 =$ _____

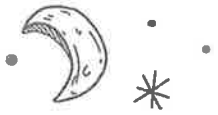
26. $6.8 \times 7.434 =$ _____

TIP: Always double check your work to avoid simple calculation mistakes.



27. $100 - 99.591 =$ _____

28. $0.2688 \div 9.1 =$ _____



29. The state of Texas recorded annual snowfall in Wichita Falls as 10.7123 centimeters, Midland as 13.012 centimeters, Tyler as 3.391 centimeters, Amarillo as 45.2 centimeters, and Lubbock as 20.876 centimeters. What is the average annual snowfall for these 5 Texas cities?

30. Eric, an avid soccer player, visits a store and buys a FitBit watch for $ 84.99 and a Heart Rate Bracelet Monitor for $ 44.82. How much does Eric spend in all on his purchase?

BRAIN HUNTER

31. A one-year subscription of a math journal costs **$ 36.03** at the meeting. If you were to buy 12 issues of the same magazine from the organization website, you would end up spending **$64.88**. How much will you save by purchasing the subscription at the meeting?

32. Andrew is on vacation and wants to rent a tour guide and driver to go sightseeing. The car and tour guide service charges **$ 309.76** a day. If Andrew needs the tour guide for 11 days, how much does he need to pay the agency in total?

TIP: Awesome job so far! Daily math practice helps you strengthen your foundations and skills.

33. On Friday, Allison bought 10 pounds of hot dogs for her party this weekend. If one pound of hot dogs is priced at $ 3.67, how much did Allison pay?

34. Edwin takes 51 minutes to run a distance of 4.723 miles on the track. Determine the average distance covered in one minute.

35. Kim makes 138.91 ounces of strawberry lemonade for her sisters and brothers. She pours it out equally into 9 cups. How much strawberry lemonade do Kim's sisters and brothers receive?

BRAIN HUNTER

Find the Greatest Common Factor for Questions 56 - 59.

36. 44, 22

37. 91, 98

38. 7, 33

39. 32, 48

Find the Least Common Multiple for Questions 60 - 62

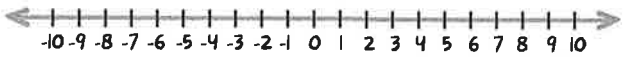
40. 36, 32

41. 30, 40

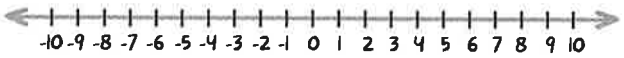
42. 6, 15

Graph the integers on the number line.

43. -2, 6, -5, 10



44. 0, 5, -9, -3



TIP: The number line has positive numbers to the right of zero and negative numbers to the left of zero. A number on the number line is greater than the number on the left and less than the number on the right.

Use the number line to find the integer.

45. 2 units to the right of -1 is _____

46. 3 units to the right of 7 is _____

47. 5 units to the right of -9 is _____

48. 11 units to the left of 5 is _____

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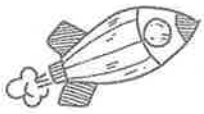


Order the integers from least to greatest.

49. -89, -93, -42, -83, 39, -57, 10

____, ____, ____, ____, ____, ____, ____,

50. -11, 8, -5, 18, 20, 13, -1

____, ____, ____, ____, ____, ____, ____,

51. 13, -1, -14, -16, 12, -7, 1

____, ____, ____, ____, ____, ____, ____,

Compare each pair of integers using the symbols >, < or =.

52. -11 _____ 8

53. 20 _____ 13

54. -1 _____ -14

55. -8 _____ 0

56. -2 _____ -11

BRAIN HUNTER

Find the integer that represents the description.

57. Lost **20** points _____

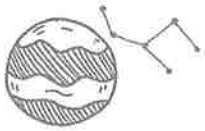
58. **6000** feet above sea level

_____

59. Find the absolute value. $|5|$ =

_____

TIP: Absolute value is the distance a number is from zero. Absolute value can never be negative.



60. $|-13| =$ _____

61. $|2| =$ _____

62. $|-11| =$ _____

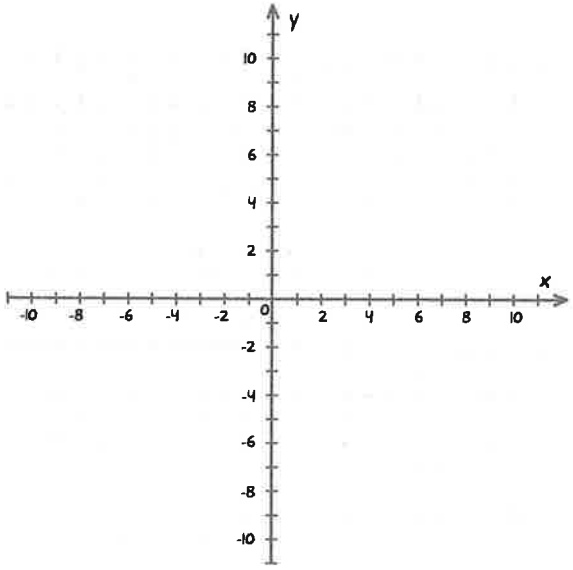
63. $|7| =$ _____

64. $|-4| =$ _____

BRAIN HUNTER

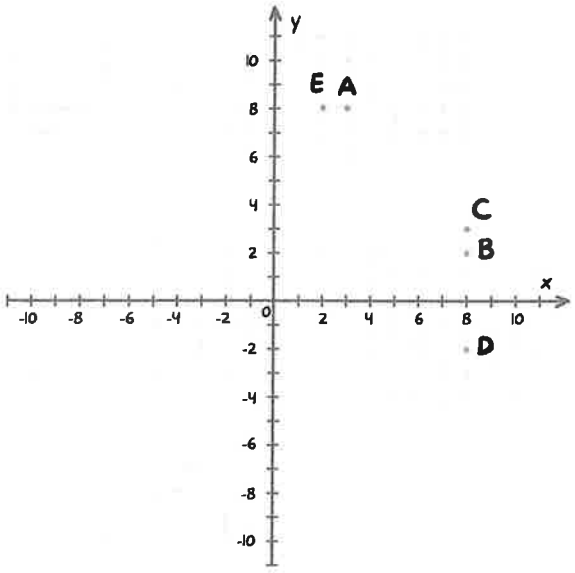
65. Using the coordinate plane plot the points and label them with the letter.

A(2, 1)
B(0, 0)
C(-4, 3)
D(-2, -5)
E(-5, 1)



66. Give the coordinates for each point on the coordinate plane.

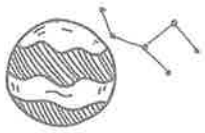
A (_____, _____)
B (_____, _____)
C (_____, _____)
D (_____, _____)
E (_____, _____)



CHAPTER 3

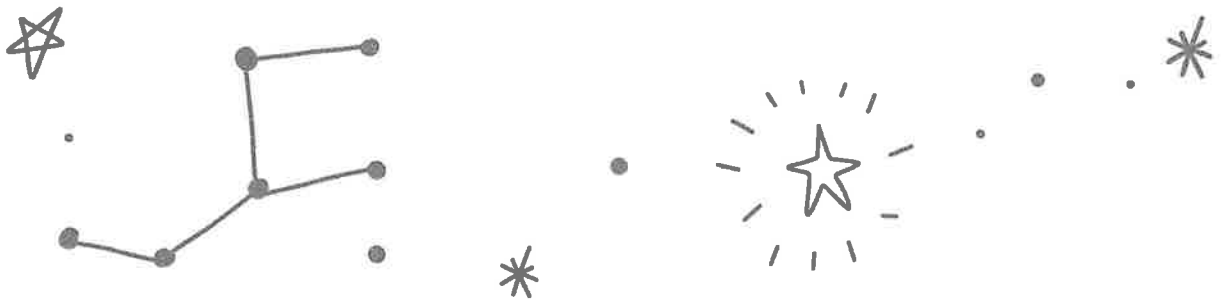
GRADE 6

BRAIN HUNTER



Complete the table.

	Expanded Form	Exponential Form	Verbal Form	Standard Form
1.	$3 \times 3 \times 3 \times 3$			
2.			six squared	
3.		8^5		
4.			nine squared	
5.	$100 \times 100 \times 100$			
6.			eight to the first power	
7.		19^1		
8.				0



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Evaluate.

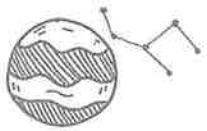
9. $22 - 4^2$

10. $1000 - 20 \div 51^0 - 64$

11. $(12 - 6)^2 \div 3$

12. $35 - 12 \div 4 + 10^2$

13. $10 \times (8 - 4)^3$



Change the verbal expression to an algebraic expression.

14. the difference of 10 and 5

15. u decreased by 17

16. half of 14

17. x increased by 6

18. the product of x and 7

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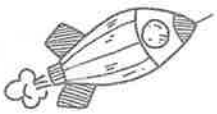
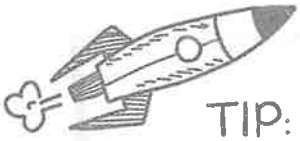


19. the sum of q and 8

20. 6 squared

21. twice q

22. the quotient of 18 and n



TIP: Words and phrases that determine addition include plus, more than, increased, greater than, sum and total.

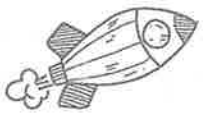
23. n cubed

24. Victoria has **20** meters of lace to make wedding dresses for w brides. Write an expression for the length of lace used for each dress.

25. In a zoo, there were **36** exhibits, but exhibits were closed. Write the expression for the number of exhibits that were open using c to represent the number of closed exhibits.

26. YouTalk Cell Phone Company charges **$90** per month and no activation fee. Write an expression for the total cost for m months.

BRAIN HUNTER



Convert the algebraic expression to a verbal expression.

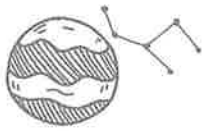
27. $a + 9$

28. $\frac{x}{4}$

29. $n - 1$

30. $z \div 2$

31. $40 \times c$



Evaluate.

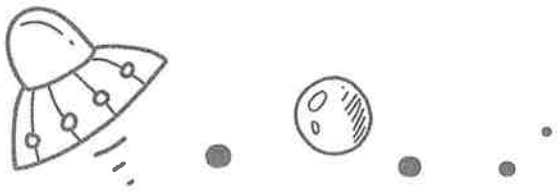
32. 5 squared

33. the product of 8 and 10

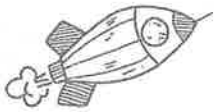
34. 20 decreased by 17

35. the quotient of 96 and 8

36. twice 6



BRAIN HUNTER



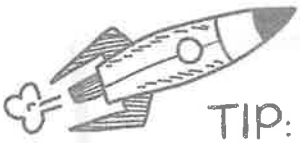
37. 10 less than 17

38. 9 times 5

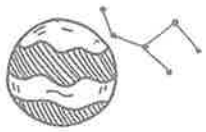
39. 10 increased by 8

40. 7 squared

41. the product of 4 and 5



TIP: Words and phrases that determine multiplication include times, product, equal groups of, and combine.



Simplify.

42. $x + 1 + 7x + 10$

A. $-20x$
B. $8x + 11$
C. $5 + 8x$
D. $-2 - 8x$

43. $10p - 10 - 10p$

A. $-15p$
B. -10
C. $-17p$
D. $-10 + 5p$

44. $-1 - 10x - 5x$

A. $10x$
B. $4x - 15$
C. $-1 - 15x$
D. $-3x$

BRAIN HUNTER

45. $9(10 - 8r)$

A. $2r + 16$
B. $54 - 9r$
C. $90 - 72r$
D. $90 + 72r$

46. $9(9k - 9)$

A. $3k - 27$
B. $6k - 16$
C. $81k - 81$
D. $6k - 22$

47. $3.5 + (x + 2.7)$

48. $7(4p)$

49. $6(8 - x)$

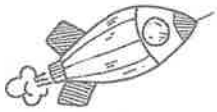
50. $5a + 7 - 3a - 2$

51. $6a + 2b + 3(a + b)$

52. $10(9r + 10)$

53. $8(4r - 7) + 2r$

BRAIN HUNTER



Evaluate.

54. $(x - 2)^2 + y^2$; $x = 6$ and $y = 7$

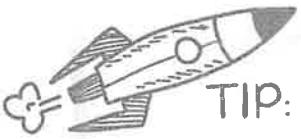
A. 22 **C.** 44
B. 37 **D.** 65

55. $p(np) + (7 - m)$; $m = 4$, $n = -8$, and $p = 5$

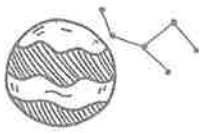
A. 4 **C.** -197
B. -4 **D.** 197

56. $q - (r + r^2)$; $q = 10$ and $r = -2$

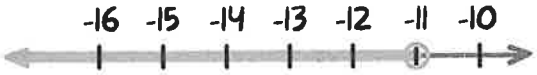
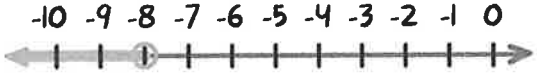
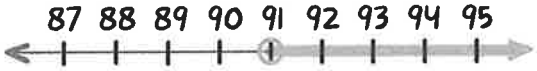
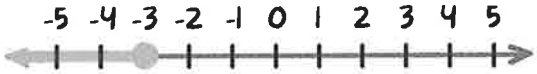
A. 8 **C.** 10
B. -16 **D.** 16



TIP: To evaluate an expression, first replace each letter in the expression with the assigned value. Then, perform the operations but make sure to follow the order of operations!



Complete the table. Use x as the variable.

Inequality	Number Line
57.	
58. $x \geq -5$	
59.	
60.	
61. $0 < n$	
62.	
63.	
64. $1 \geq v$	
65. $-2 \leq n$	

BRAIN HUNTER

Determine which value makes the inequality true.

66. $6d - 3 \geq 33$

A. $d \leq 4$ **C.** $d \geq 6$
B. $d \geq 5$ **D.** $d \leq 7$

67. $7k < 51$

A. $k < 7\frac{2}{7}$ **C.** $k < 51$
B. $k > 7\frac{2}{7}$ **D.** $51 < 7k$

Solve.

68. $26 = 8 + n$

69. $r + 4 = 12$

70. $s - 7 = 13$

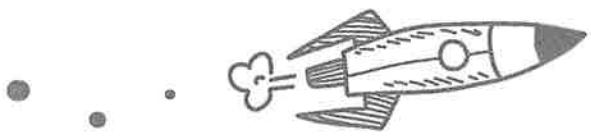
71. $v - 15 = 27$

72. $104 = \frac{x}{8}$

73. $14y = 56$

74. $15d = 0$

75. $21 = 7f$



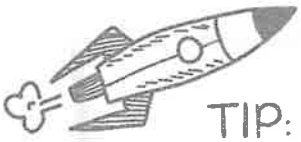
BRAIN HUNTER

76. $\frac{k}{4} = 13$

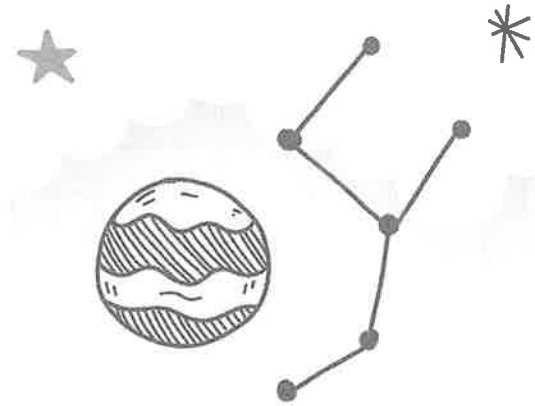
77. At a restaurant, Darrell and his four friends divided the bill. If each person paid $ 16 then, what was the total bill?

A. $ 16
B. $ 64
C. $ 80
D. $ 4

78. Megan wants to buy wireless earpods that cost $ 42.37. How much change does she get back if she gives the cashier a $ 50 bill?

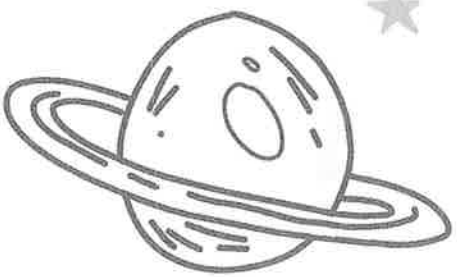


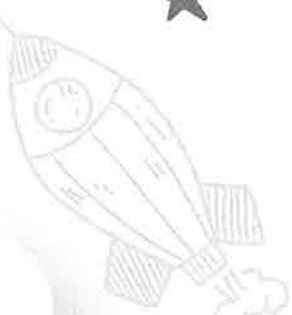
TIP: Words and phrases that determine subtraction include minus, less than, decreased by, and difference.



CHAPTER 4

GRADE 6

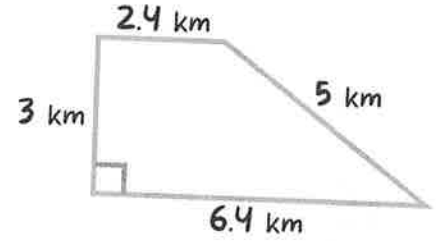
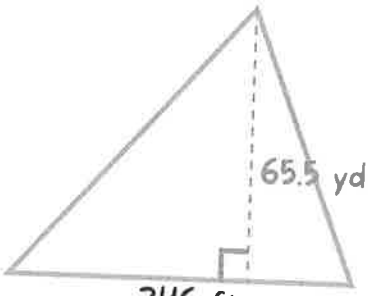
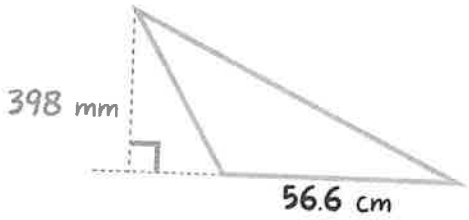
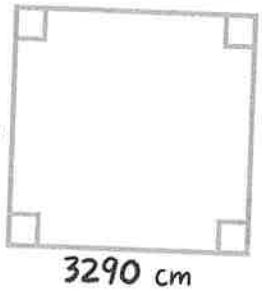




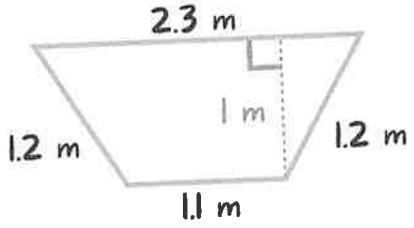
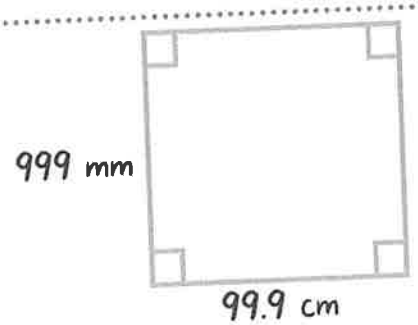
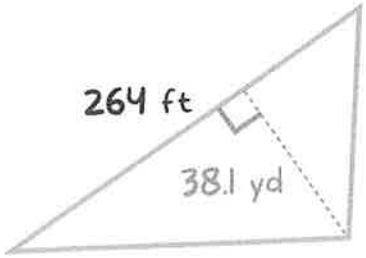
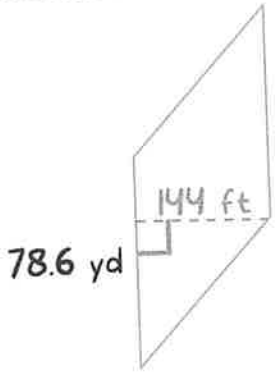
BRAIN HUNTER

GEOMETRY
SECTION 1: AREA

Calculate the area of the figure.

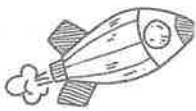
Figure	Area
1. 	
2. 	
3. 	
4. 	

GEOMETRY
SECTION 1: AREA

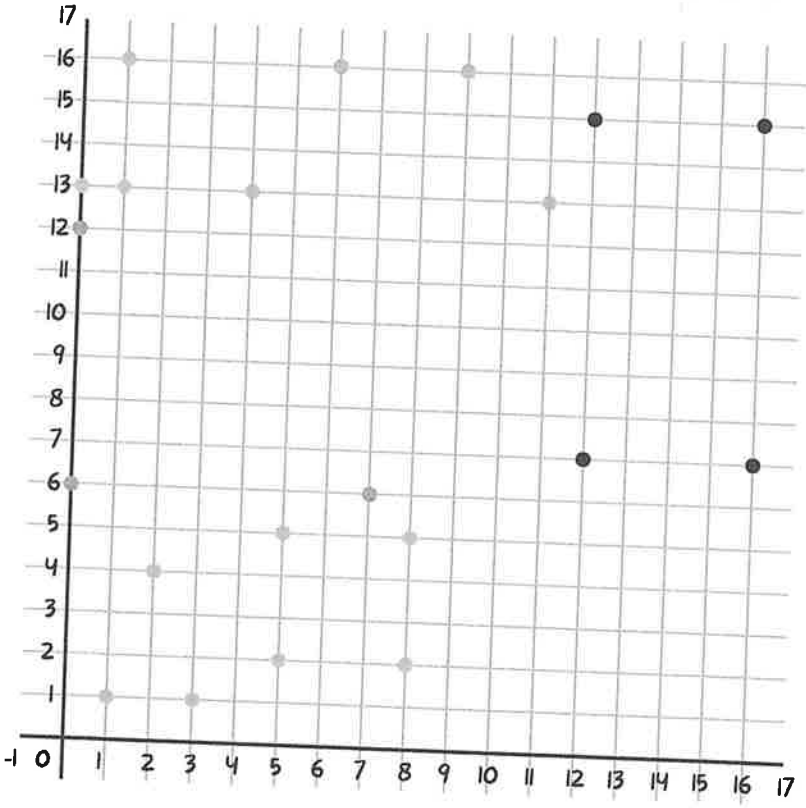
Figure	Area
5. 	
6. 	
7. 	
8. 	

BRAIN HUNTER

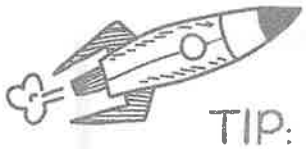
GEOMETRY
SECTION 1: AREA



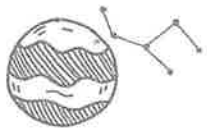
Connect the dots. Name the polygon. Find the area.



9. Green Coordinates (1, 1) (3, 1) (2, 4)



TIP: The area of a square is Area= side x side.
The area of a triangle is Area=(base x height) / 2.



10. Blue Coordinates (5, 2) (8, 2) (8, 5) (5, 5)

11. Red Coordinates (0, 6) (0, 12) (7, 6)

12. Black Coordinates (12, 7) (16, 7) (16, 15) (12, 15)

13. Green Coordinates (4, 13) (11, 13) (9, 16) (6, 16)

14. Blue Coordinates (0, 13) (1, 13) (1, 16)

Find the area.

15. The bottom of a fish tank is rectangular and measures 13 m by 6 m. What is the area of the bottom of the tank?

16. Donald is decorating the board in the team locker room to build team spirit. The bulletin board is 8 ft by 9 ft. How much board paper does he need to cover the board?

17. Judy wants to fertilize her rectangular backyard with a length of 5 yds and a width of 12 yds. A bag of fertilizer covers 4 square yds. How many bags will he need to buy to cover the entire garden?

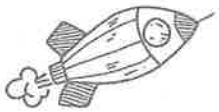
18. The perimeter of a square garden is **56** ft. Find the area of this garden.

19. A football field measures **100** yds by **53** yds. How much astroturf should the athletic director order to cover the field and also have enough to replace the whole field in the future?

20. Danille and Andy are making a banner for the football game on Friday. How much paper will they need for a triangular pennant shaped banner with a height of **48** inches and a base of **108** inches?

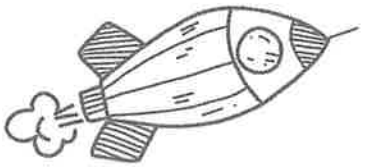
21. Julie wants to put new carpet in her bedroom. The bedroom is **7** yds long and **5** yds wide. The carpet cost **$ 9.25** per square foot. What will Julie pay to put new carpet in her bedroom?

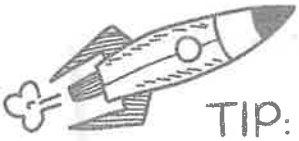
BRAIN HUNTER



22. After installing the carpet, Julie decides she also wants new tile in her bathroom. The bathroom is is 12 ft by 13 ft. The tile cost $6 per square foot. What will be the total cost of the tile and the carpet?

23. Donald is working on a mosaic that is covered with 54 regular triangular tiles with a height of 4.33 inches and a base of 5 inches. What is the area of the bathroom floor in square feet?





TIP: The perimeter is the distance around a figure. To find the perimeter of a figure, simply add up all the sides.

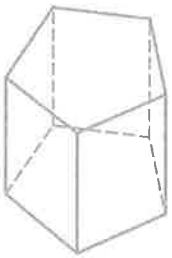
24. Mark is building a dog house and the height of the triangular door is 8 ft. The are of the door is 20 square feet. What is the base of the dog house?

25. Adam created a triangular-shaped fruit garden. He lined the base of the garden with eight plants each 1.76 ft wide and the height of the garden with eleven plants each 2.32 ft wide. What was the area of the garden?

26. Monty decided to buy a triangular-shaped piece of wood to be cut for his pool balls on his pool table. The height was 18 inches and the base was 20 inches. What is the area of the piece of wood?

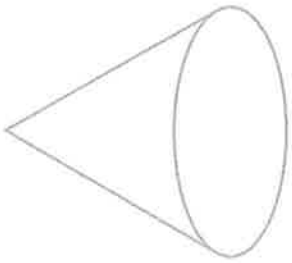
Name the solid.

27.



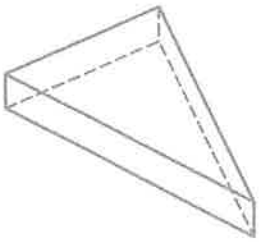
A. Pentagonal prism
B. Triangular prism
C. Rectangular prism
D. Cone

28.



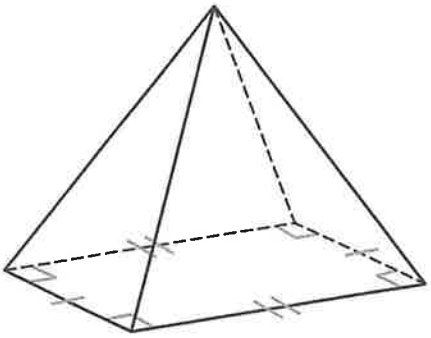
A. Pentagonal pyramid
B. Cone
C. Triangular pyramid
D. Square pyramid

29.



A. Square prism
B. Triangular prism
C. Rectangular prism
D. Rectangular pyramid

30.

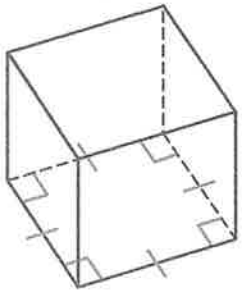


A. Triangular pyramid
B. Square pyramid
C. Rectangular pyramid
D. Hexagonal pyramid

31.

A. Hexagonal prism
B. Pentagonal prism
C. Trapezoidal prism
D. Rectangular prism

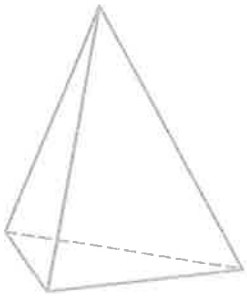
32.



A. Hexagonal prism
B. Square prism
C. Pentagonal prism
D. Trapezoidal prism

TIP: Use the base of the prisms and pyramids to name the 3D solid.

33.

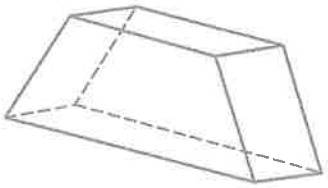


A. Sphere
B. Triangular pyramid
C. Pentagonal pyramid
D. Heptagonal pyramid

34.

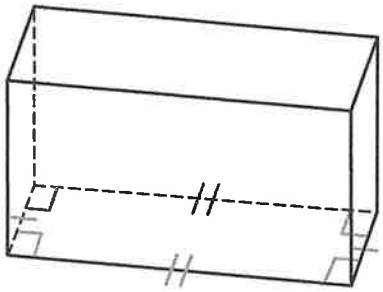
A. Cylinder
B. Cone
C. Pentagonal pyramid
D. Square pyramid

35.



A. Trapezoidal prism
B. Square prism
C. Hexagonal pyramid
D. Pentagonal prism

36.

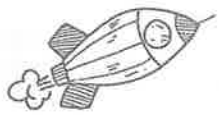


A. Square prism
B. Hexagonal prism
C. Pentagonal prism
D. Rectangular prism

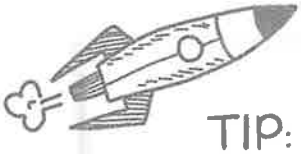
GEOMETRY
SECTION 3: NETS OF SOLIDS

Draw the net of the solid in the space provided.

Solid	Net
37. Triangular Pyramid	
38. Cube	
39. Square Prism	



Solid	Net
40. Cylinder	
41. Square Pyramid	

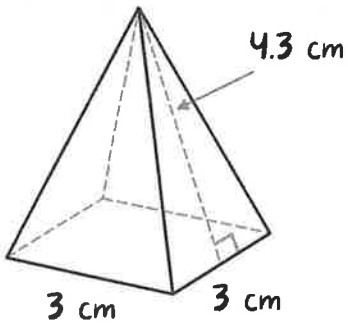


TIP: Remember, a net is a 2-dimensional shape that can be folded to form a 3-dimensional solid.

Solid	Net
42. Triangular Prism	
43. Pentagonal Pyramid	

Draw the net and find the surface area.

44.



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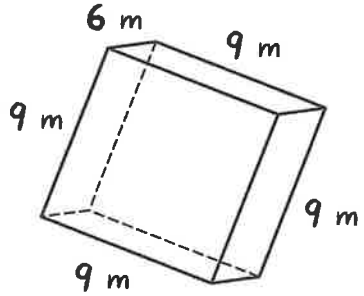

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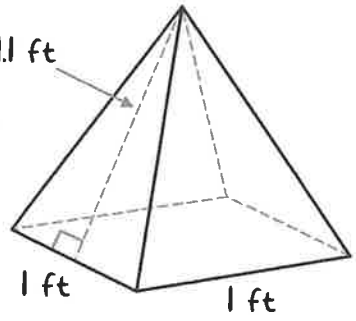

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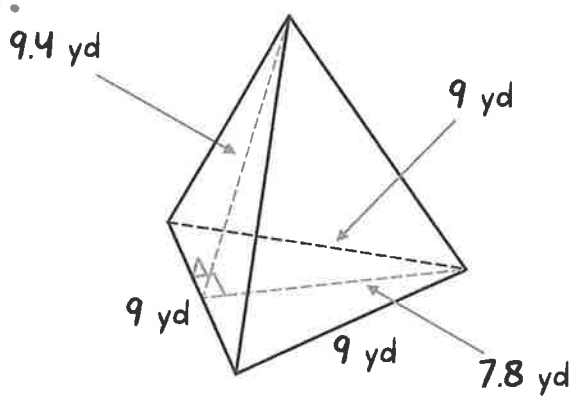

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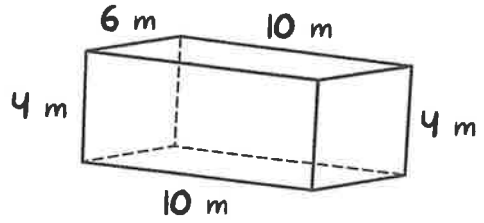


BRAIN HUNTER

Find the Surface Area.

49. Marshall wants to wrap a gift for his cousin Blake. The top and bottom have a length of 9 in and a width of 4 in. The sides are 4 in. by 3 in. and the front and back are 9 in. by 3 in. How much gift wrap does Marshall need?

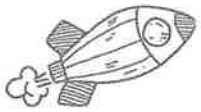
50. Jean decided to put a mini greenhouse around his award-winning sunflowers because his dog, Paul, keeps trying to eat them. The mini greenhouse was 3 ft long, 2 ft wide, and 4 ft high. How much material did he use for his greenhouse?

TIP: To find the surface area of a rectangular prism use the formula $SA=2lw+2hw+2hl$ where h is the height, l is the length, and w is the width.

51. A baker would like to purchase two boxes for his bakery. The first box measures 9 inches by 5.75 inches by 11.25 inches. The second is 8 inches by 4.25 inches by 12.75 inches. Which box requires more material to make?

52. If each box used material that cost $0.02 per square inch to make, what is the difference in the cost of the boxes?

53. Martin and Darrell are working on an engineering project and both must construct rectangular prisms. The dimensions of Martin's rectangular prism are 3.5 cm by 8 cm with a height of 11.4 cm. The dimensions of Darrell's rectangular prism are 2.5 cm × 8.75 cm × 11.5 cm. What is the total amount of material needed for both projects?



54. Amanda bakes a rectangular carrot cake that is 8 inches wide, 12 inches long, and 3 inches high. How much frosting will she need if she places frosting at the bottom of her cake dish as well?

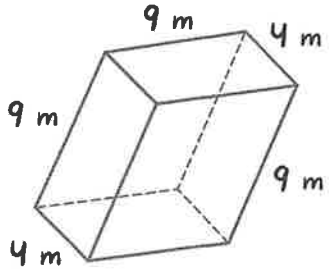
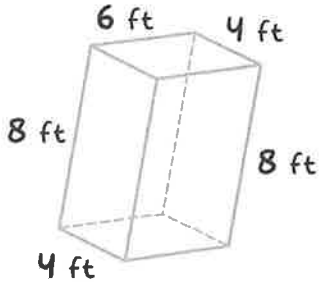
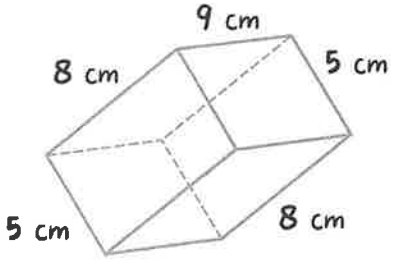
55. Diana wants to reduce the cost of packaging for her small business. She would like to switch from a shipping box that is 10 inches by 6 inches and 2 inches high to a box that is 10.5 inches by 5.79 inches and 1.85 inches high. Should Diana switch boxes?

56. You have a small business where an entire room needs to be painted neon yellow. This means you must paint the concrete floor and the ceiling as well. The room is 22 ft long, 15 ft wide, and 12 ft high. If the paint costs $7.87 a gallon and each gallon covers 115 square feet of wall, how much will it cost you to paint the entire room?

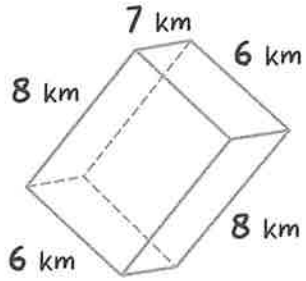
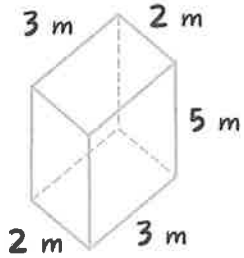
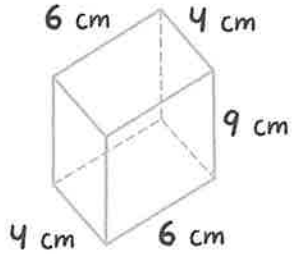
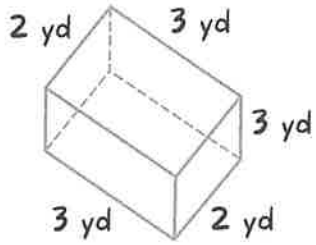
57. The Toblerone Candy Company is looking to decrease the dimensions of the triangular prism-shaped candy. With base triangles having a base length of 7 inches and a height of 6.06 inches, and a length of the rectangular sides at 7 inches and a width of 5 inches, what must the surface area be less than for the dimensions to have decreased?

58. A company is specializing in triangular prism-shaped canvas travel bags. The company plans to have the summer bag dimensions as follows: triangular bases with a base of 24 feet and a height of 20 feet. The length of rectangular sides are 30 inches by 11 inches. What is the surface area of the travel bag?

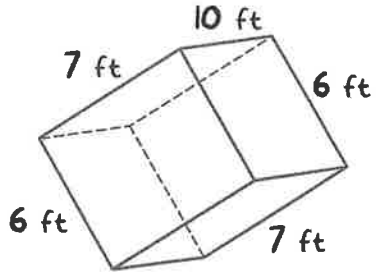
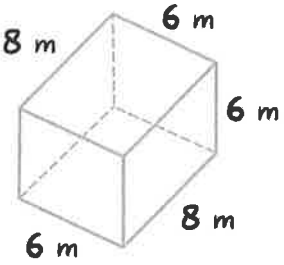
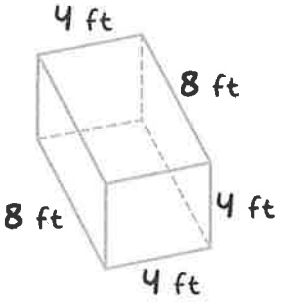
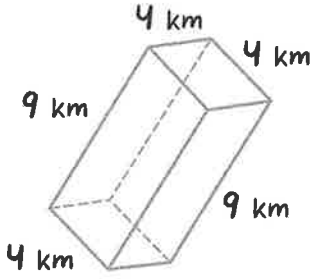
Calculate the volume of the solid.

Solid	Volume
59. 	
60. 	
61. 	

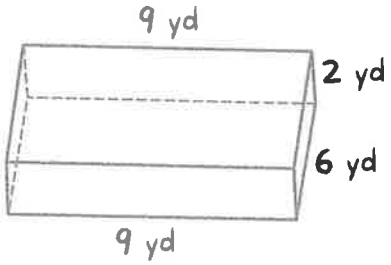
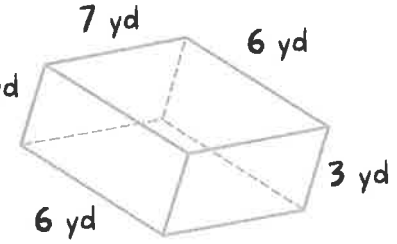
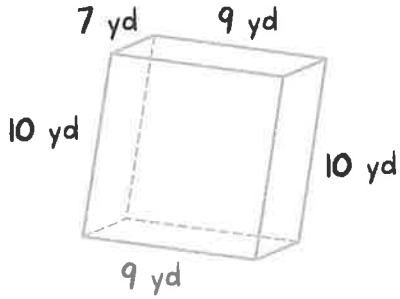
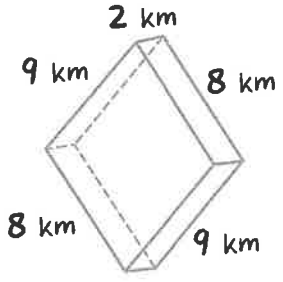
TIP: To find the volume of a rectangular prism use the formula $V = l \times w \times h$ where l is the length, w is the width, and h is the height.

Solid	Volume
62. 	
63. 	
64. 	
65. 	

BRAIN HUNTER

Solid	Volume
66. 	
67. 	
68. 	
69. 	

GEOMETRY
SECTION 5: VOLUME

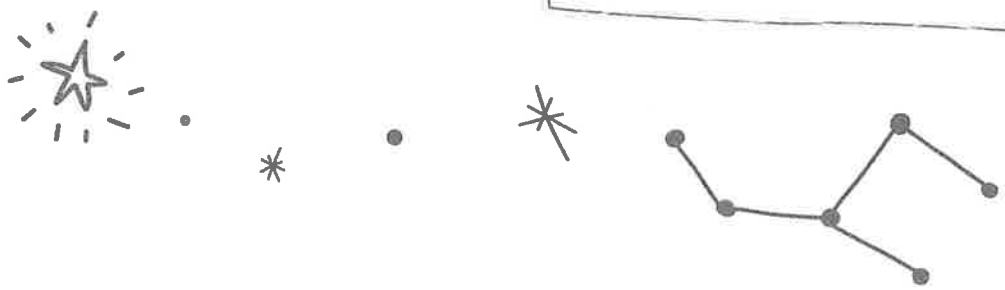
Solid	Volume
70. 	
71. 	
72. 	
73. 	

BRAIN HUNTER

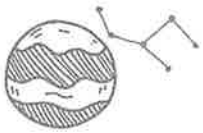
Find the volume.

74. Victoria got a new toy in the shape of a cube. A cube is a rectangular prism with the same measurement for length, width, and height. What is the volume of a cube that is 6 inches tall?

75. Derick is sitting at a desk that is 1.5 yards wide and 2.9 yards long. It is 1.15 yards above the carpet. What is the volume of the area under the desk?



TIP: The formula for the volume of a cube is $V = s \times s \times s$ where s is the length of one of the sides. Remember all of the edges are the same length in a cube.



76. Derick has 4 drawers in his filing cabinet to keep his work organized. The drawers are 4 feet wide, 3 feet deep, and 1.97 feet tall. What is the total volume of all 4 drawers?

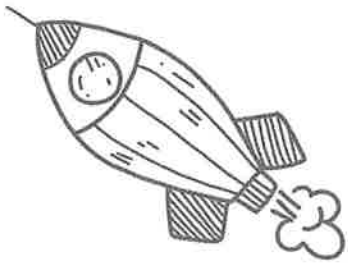
77. Joy is playing with a set of blocks. She built 2 block towers: one with 11 blocks and the other with 13. She would like to determine the difference in the volume of the towers. Each block is 1.9 inches wide, 2.3 inches long, and 2.1 inches tall. What is the difference in the volumes of the towers?

78. Sharon's closet is 8 feet wide, 6 feet deep, and 12 feet tall. In the closet, there is a safe that is 2.97 feet wide, 3.2 feet long, and 2.8 feet tall. How much room is left in the closet?

BRAIN HUNTER

79. Angie has a math binder that is 8.9 inches wide, 11.75 inches long, and 2.5 inches thick. What is the volume of paper Angie's binder can hold?

80. A rectangular bathtub is being filled with water. The tub is 3 ft wide, 4.5 feet long, and 33 inches tall. The water will only come within 8 inches of the tub height to keep it from overflowing. What is the volume of water that the tub can hold?



CHAPTER 5

GRADE 6

BRAIN HUNTER

STATISTICS AND PROBABILITY
SECTION 1: RECOGNIZING A STATISTICAL QUESTIONS.

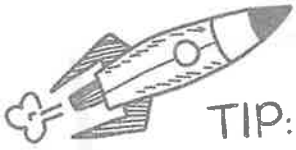
Determine if this is a statistical question. If it is not a statistical question, provide an explanation why it is not.

1. How many pairs of shoes does my best friend have?

2. Can your brother ski?

3. What type of basketball is used most often by your teammates to practice?

4. How many students play sports such as tennis, basketball, softball and volleyball?



TIP: A statistical question is a question where you do not expect to get a single answer but a variety of different answers.

5. What is my favorite color?

6. What is your favorite movie?

7. How old is your sister?

8. What is the favorite exercise of your track team mates?

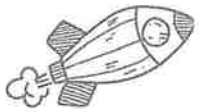
9. How many sisters does my dad have?

10. How many students in your class attend summer camp?

BRAIN HUNTER

STATISTICS AND PROBABILITY

SECTION 1: RECOGNIZING A STATISTICAL QUESTIONS.



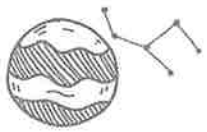
Rewrite the following questions to make them a statistical question.

11. Can I swim a 100 meter freestyle?

12. How many dogs do I have?

13. What is my favorite tv show?

14. How tall is my daughter?



15. What time do I wake up on Saturday?

16. What video game does my brother like best?

17. What cell phone do I have?

18. How many cats does my aunt have?

Last year, Mr. Live's debate team competed at a debate competition hosted by the lawyers association in the city. The judges gave the debate team the following scores for their argument over school restrictions on web filters with 1 being the lowest score they can receive and 10 being the highest.

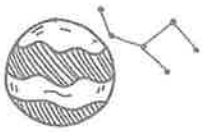
6 8 2 9 7 8 8 5 8 7 7 9

19. Make a dotplot of Mr. Live's debate team's scores.

20. What is the shape of the distribution of Mr. Live's debate team's scores?

Normal/Symmetric
Skewed Right
Skewed Left
Uniform

TIP: Remember, in a right skewed distribution, the mean is greater than the median and in a left skewed distribution, the mean is less than the median.



21. What is the mean of Mr. Live's debate team's scores?

22. What is the range of Mr. Live's debate team's scores?

23. Discuss any outliers. If there are none, explain how you know.

This year, at the same competition, Ms. Winny's debate team wishes to score a higher score and have scores that are closer to the center in comparison to Mr. Live's team. The judges gave the debate team the following scores for their argument over the driving age being lowered with 1 being the lowest score they can receive and 10 being the highest.

4 6 6 7 8 7 7 5 9 9 5 7

24. Make a dotplot of Ms. Winny's debate team's scores.

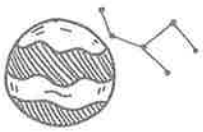
BRAIN HUNTER

25. What is the shape of the distribution of Ms. Winny's debate team's scores?

Normal/Symmetric
Skewed Right
Skewed Left
Uniform

26. Did the debate team get their wish of having a higher score? Show how you know.

27. Did the debate team get their wish of having scores closer to the center? Show how you know.



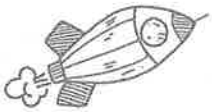
The following is a list of average temperatures in different states. Use the data to create a frequency table and histogram.

50	42	100	45	68	32	100
67	61	31	75	39	62	64
49	55	51	33	99	96	64

28. Frequency Table

Temperatures	Frequency
31 - 40	
41 - 50	
51 - 60	
61 - 70	
71 - 80	
81 - 90	
91 - 100	

BRAIN HUNTER

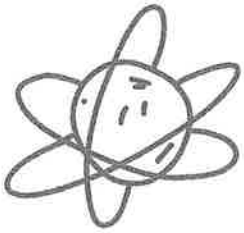


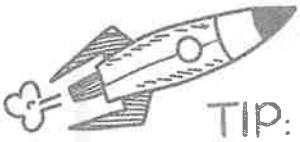
29.

Histogram

The following is a list of average time students in Ms. Lacy's chemistry class spend studying. Use the data to create a frequency table and histogram.

1	2	6	7	12	13	2
6	9	5	18	7	3	15
15	4	17	1	14	5	4
16	4	5	8	6	5	18
5	2	9	11	12	1	9
2	10	11	4	10	9	18
8	8	4	14	7	3	2





TIP: A histogram looks similar to a bar graph where each bar represents a range of values and how frequently they appear in the data set.

30.

Hours Studying	Frequency
1 - 3	
4 - 6	
7 - 9	
10 - 12	
13 - 15	
16 - 18	

31.

Histogram

BRAIN HUNTER

The following is a list of History final exam test scores. Use the data to create a frequency table and histogram.

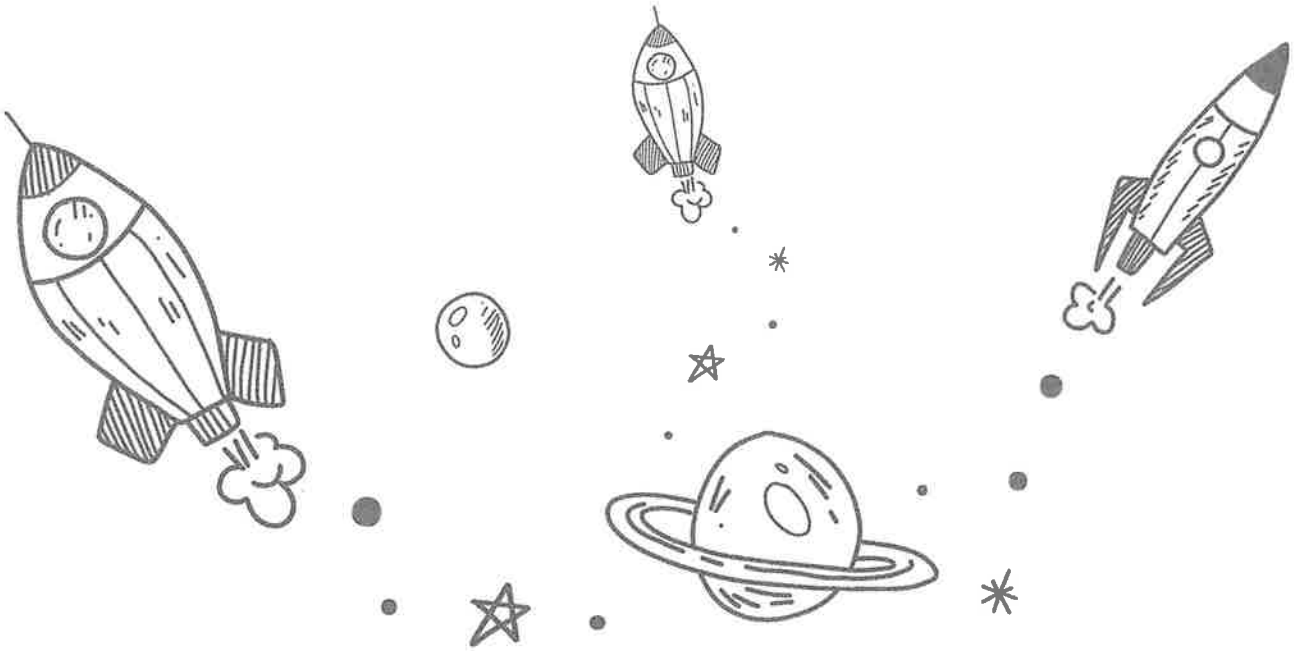
94	82	82	63	98	78	69
54	51	98	72	80	90	77
76	80	80	91	78	41	69
65	43	65	75	43	93	59

32.

Test Scores	Frequency
41 - 50	
51 - 60	
61 - 70	
71 - 80	
81 - 90	
91 - 100	

33.

Histogram



BRAIN HUNTER

STATISTICS AND PROBABILITY
SECTION 4: MEAN, MEDIAN, AND MODE

Find the mean, median and mode of the set of data.

34. 101, 204, 305, 305, 308, 509, 700, 720

A. Mean: _____
B. Median: _____
C. Mode: _____

35. 37, 36, 47, 43, 66, 58, 42, 69, 55, 31

A. Mean: _____
B. Median: _____
C. Mode: _____

TIP: To find the mean of a set of data, find the sum of the numbers in the data set and divide by the number of data points.

36. 102, 205, 458, 298, 1021, 304, 2001

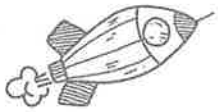
A. Mean: _____
B. Median: _____
C. Mode: _____

37. 3, 6, 17, 13, 6, 8, 12, 19, 5, 10

A. Mean: _____
B. Median: _____
C. Mode: _____

38. 67, 69, 63, 64, 63, 67, 60, 61

A. Mean: _____
B. Median: _____
C. Mode: _____



39. 3, 5, 9, 2, 4, 5, 3, 8, 7, 4, 2, 9, 7, 1, 2, 2, 5, 7, 12, 6, 3, 7, 9, 2, 1, 7, 4, 3, 9, 11

A. Mean: _____
B. Median: _____
C. Mode: _____

40. 61, 67, 81, 83, 87, 88, 89, 90, 98, 100

A. Mean: _____
B. Median: _____
C. Mode: _____

41. 70, 55, 61, 80, 85, 72, 65, 40, 74, 68, 84

A. Mean: _____
B. Median: _____
C. Mode: _____

42. 10, 8, 9, 16, 19, 15, 20, 16, 21, 22, 19

A. Mean: _____
B. Median: _____
C. Mode: _____

43. 16, 12, 13, 14, 16, 18, 15, 17, 20, 12, 14, 15, 15

A. Mean: _____
B. Median: _____
C. Mode: _____

44. 20, 25, 24, 17, 18, 19, 21, 27

A. Mean: _____
B. Median: _____
C. Mode: _____

45. 91, 87, 80, 99, 85, 78, 90

A. Mean: _____
B. Median: _____
C. Mode: _____

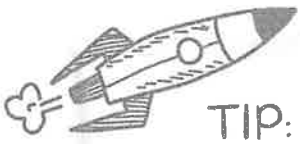
Find the range of the set of data.

46. 101, 204, 305, 305, 308, 509, 700, 720

47. 37, 36, 47, 43, 66, 58, 42, 69, 55, 31

48. 102, 205, 458, 298, 1021, 304, 2001

49. 3, 6, 17, 13, 6, 8, 12, 19, 5, 10



TIP: The range is the difference between the largest value in the data set and the smallest value.

50. 67, 69, 63, 64, 63, 67, 60, 61

51. 3, 5, 9, 2, 4, 5, 3, 8, 7, 4, 2, 9, 7, 1, 2, 2, 5, 7, 12, 6, 3, 7, 9, 2, 1, 7, 4, 3, 9, 11

52. 61, 67, 81, 83, 87, 88, 89, 90, 98, 100

53. 70, 55, 61, 80, 85, 72, 65, 40, 74, 68, 84

54. 10, 8, 9, 16, 19, 15, 20, 16, 21, 22, 19

55. 16, 12, 13, 14, 16, 18, 15, 17, 20, 12, 14, 15, 15

56. 20, 25, 24, 17, 18, 19, 21, 27

57. 91, 87, 80, 99, 85, 78, 90

Find the five number summary of the set of data and create a boxplot.

58. 101, 204, 305, 305, 308, 509, 700, 720

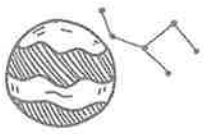
Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

59. 37, 36, 47, 43, 66, 58, 42, 69, 55, 31

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:



60. 102, 205, 458, 298, 1021, 304, 2001

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

61. 80, 90, 77, 76, 80, 80, 91, 78, 41, 69, 65, 43, 65, 75, 43, 93

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

62. 3, 6, 17, 13, 6, 8, 12, 19, 5, 10

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

63. 67, 69, 63, 64, 63, 67, 60, 61

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

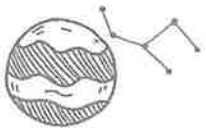
Boxplot:

64. 30, 32, 11, 14, 40, 37, 16, 26, 12, 33, 13, 19, 38, 12, 28, 15, 39, 11, 37, 17, 27, 14, 36

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

TIP: To find the five number summary follow these steps:
Step 1: Put the numbers in ascending order (from smallest to largest).
Step 2: Find the minimum and maximum for the data set.
Step 3: Find the median.
Step 4: Place parentheses around the numbers above and below the median.
Step 5: Find Quartile 1 and Quartile 3 by finding the median of the upper and lower half respectively.



65. 61, 67, 81, 83, 87, 88, 89, 90, 98, 100

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

66. 70, 55, 61, 80, 85, 72, 65, 40, 74, 68, 84

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

67. 10, 8, 9, 16, 19, 15, 20, 16, 21, 22, 19

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

BRAIN HUNTER

68. 91, 87, 80, 99, 85, 78, 90

Minimum: _____
Q1: _____
Median: _____
Q3: _____
Maximum: _____

Boxplot:

Find the mean absolute deviation of the set of data.

69. 101, 204, 305, 305, 308, 509, 700, 720

70. 37, 36, 47, 43, 66, 58, 42, 69, 55, 31

71. 102, 205, 458, 298, 1021, 304, 2001

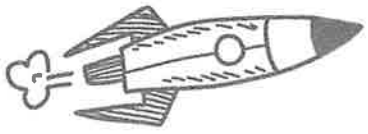
72. 3, 6, 17, 13, 6, 8, 12, 19, 5, 10

73. 67, 69, 63, 64, 63, 67, 60, 61

74. 30, 32, 11, 14, 40, 37, 16, 26, 12, 33, 13, 19, 38, 12, 28, 15, 39, 11, 37, 17, 27, 14, 36

75. 61, 67, 81, 83, 87, 88, 89, 90, 98, 100

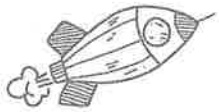
76. 70, 55, 61, 80, 85, 72, 65, 40, 74, 68, 84



BRAIN HUNTER

STATISTICS AND PROBABILITY

SECTION 5: MEAN ABSOLUTE DEVIATION, RANGE, INTERQUARTILE RANGE, AND BOXPLOTS



77. 10, 8, 9, 16, 19, 15, 20, 16, 21, 22, 19

78. 16, 12, 13, 14, 16, 18, 15, 17, 20, 12, 14, 15, 15

79. 20, 25, 24, 17, 18, 19, 21, 27

80. 91, 87, 80, 99, 85, 78, 90

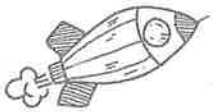
TIP: To find the mean absolute deviation (MAD) of the data follow these steps:
Step 1: Find the mean of the data set.
Step 2: Find the absolute value of the difference between each data value and the mean:
| data value - mean |. Remember, absolute value can not be negative.
Step 3: Find the sum of the absolute values of the differences.
Step 4: Divide the sum of the absolute values of the differences by the number of data values.

CHAPTER 6

GRADE 6

BRAIN HUNTER

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



1. $5\frac{8}{9} \div 7 =$

A. $\frac{53}{63}$

B. $41\frac{2}{9}$

C. $1\frac{1}{9}$

D. 5

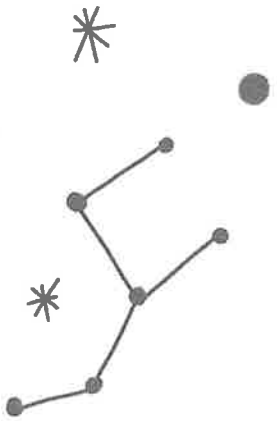
2. Oliver has $\frac{5}{6}$ of a bag of candy. If he puts the same number of candy in 8 bags, how much of the original bag of candy will be in each of the bags?

A. $\frac{5}{6}$

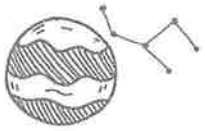
B. $\frac{5}{48}$

C. $\frac{48}{5}$

D. $\frac{3}{20}$



PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

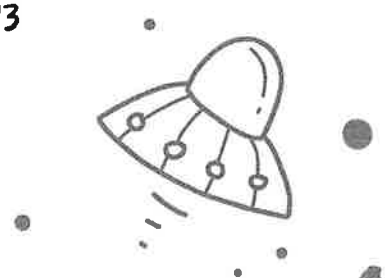


3. Eric, an avid soccer player, visits a store and buys a FitBit watch for $82.99 and a Heart Rate Bracelet Monitor for $45.92. How much does Eric spend in all on his purchase?

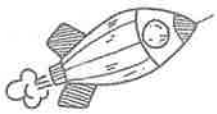
A. $128.91
B. $37.07
C. $3820.90
D. $1.81

4. A one-year subscription of a video game magazine costs $46.03 at the gaming convention. If you were to buy 12 issues of the same magazine from the organization website, each issue cost $4.27. How much will you save by purchasing the subscription at the convention?

A. $50.30
B. $41.76
C. $5.21
D. $.43



PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



5. Find the greatest common factor of 48, 120.

A. 48
B. 3
C. 240
D. 24

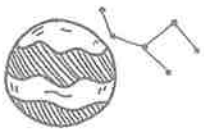
6. Find the least common multiple of 65, 10, and 5.

A. 5
B. 130
C. 3250
D. 325

7. Rewrite 12 + 22 as a product.

A. 2 (6 + 11)
B. 12 × 22
C. 2 + (6 × 11)
D. 2 (12 + 22)

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



8. Fill in the blank. -8 _____ 0

A. >
B. <
C. =
D. None of the above

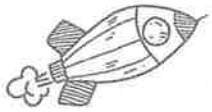
9. Mount Everest is 29,029 feet above sea level. Which integer best represents the height of Mount Everest with regards to see level?

A. -29,029
B. +29,029
C. Both A & B
D. Neither A or B

10. What is the absolute value of | -13 |?

A. -13
B. +13
C. Both A & B
D. Neither A or B

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



11. The following is a statistical question: Can your brother ski?

A. True
B. False
C. Sometimes
D. Can not tell with the information given.

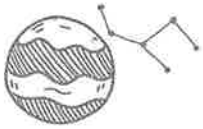
12. True or False. The following is a statistical question: What type of basketball is used most often by your teammates to practice?

A. True
B. False
C. Sometimes
D. Can not tell with the information given.

13. Find the mode of the data set 101, 204, 305, 305, 308, 509, 700, 720.

A. 394
B. 306.5
C. 619
D. 305

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



14. What is the ratio of circles to stars?

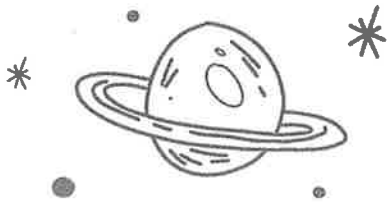
★ ★ ● ● ★ ★ ★ ★ ★ ● ● ● ★ ★

A. 7 : 5
B. 4 : 8
C. 5 : 9
D. 8 : 4

15. Which represents a ratio for the given information?

football points = 29,
baseball points = 9

A. For every 29 baseball points, there were 9 football points.
B. For every 29 football points, there were 9 baseball points.
C. The ratio of football points made to baseball points was 9 : 29.
D. The ratio of baseball points to football points was 29 : 3.



PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

16. Which ratio table best represents the information given? Every box of chips has 22 bags. Complete the table showing the bags of chips up to 4 boxes.

A.

BOX	BAGS
1	22
2	44
3	66
4	88

B.

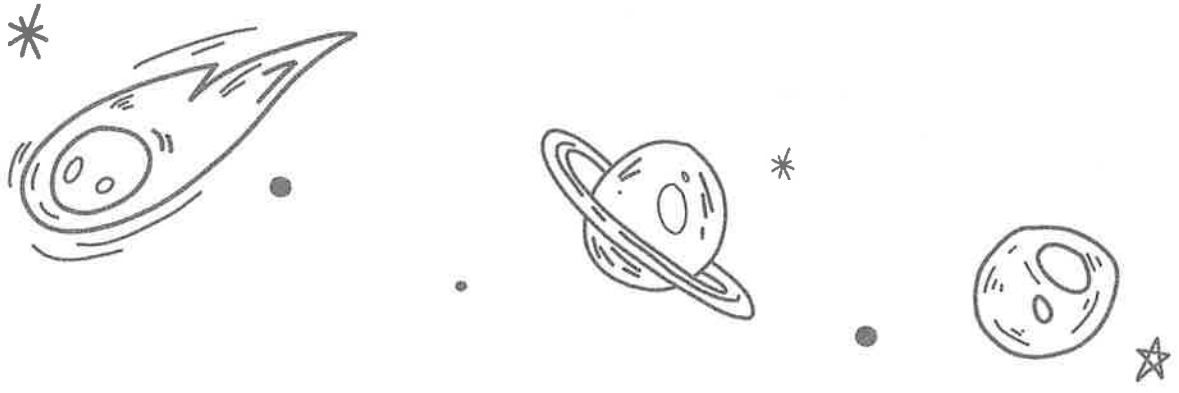
BOX	BAGS
22	1
44	2
66	3
88	4

C.

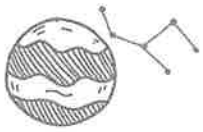
BOX	BAGS
1	88
2	66
3	44
4	22

D.

BOX	BAGS
88	1
66	2
44	3
22	4



PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



17. The pet store sold **310** hamsters in the last **62** weeks. What is the rate sold per week?

A. 12
B. 62
C. 5
D. 310

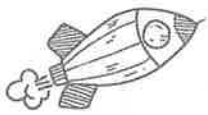
18. The cost of **6** shirts is **$239.94**. Find the cost of each shirt.

A. $39.99
B. $245.94
C. $128
D. $29.99

19. Mr. Smith's class has **32** students, of which **14** are girls. What is the ratio of girls to boys in simplest form.

A. 32 : 14
B. 16 : 7
C. 14 : 18
D. 7 : 9

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



20. 5 nickels = 1 quarter. Set up an equation to express this ratio where q = quarters and n = nickels.

A. $5q = n$
B. $5n = q$
C. $25q = n$
D. $25n = q$

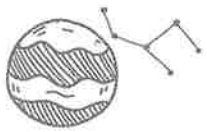
21. $1000 \times 20 \div 51^{\circ} - 64$

A. 19,936
B. -64
C. -44,000
D. 19,940

22. Evaluate the product of 10 and 5.

A. $10 + 5 = 15$
B. $10 - 5 = 5$
C. $10 \times 5 = 50$
D. $10 \div 5 = 2$

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



23. The museum is hiring staff for each of their new exhibits. They need s staff members for each exhibit. Write the expression for the number of staff they need to hire for 17 exhibits.

A. $s = 17$
B. $17s$
C. $17 + s$
D. $17 \div s$

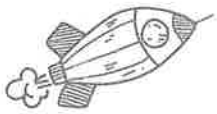
24. Translate the algebraic expression $a + 9$ into a verbal expression.

A. The quotient of a and nine
B. The product of a and nine
C. The difference of a and nine
D. The sum of a and nine

25. Simplify the expression $3x - 1 + 7x + 10$.

A. $10x + 9$
B. $10x - 9$
C. $9x + 10$
D. $19x$

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



26. $(x - 4)^3 + y^2$; $x = 6$ and $y = 3$

A. 35
B. 37
C. 12
D. 17

27. Solve for a in the equation $19a = 133$.

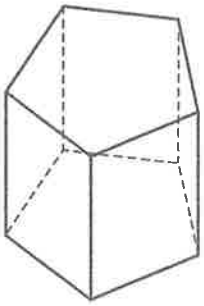
A. 2527
B. 7
C. 152
D. 133

28. Callie was given a table to complete. In which row did Callie make a mistake?

A. $3 \times 3 \times 3 \times 3$	3^4	three to the fourth power	81
B. 6×6	6^2	six squared	36
C. $8 \times 8 \times 8 \times 8 \times 8$	8^5	Eight to the fifth power	40
D. 9×9	9^2	Nine squared	81

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

29.



A. Triangular prism
B. Pentagonal prism
C. Rectangular prism
D. Cylinder

30. Danille and Andy are making a banner for the football game on Friday. How much paper will they need for a triangular pennant shaped banner with a height of 48 inches and a base of 108 inches?

A. 2592 square inches
B. 156 square inches
C. 60 square inches
D. 2592 square inches

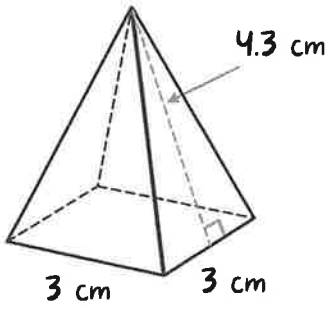
BRAIN HUNTER

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

31. Julie wants to put new carpet in her bedroom. The bedroom is 5 yds long and 4.5 yds wide. The carpet cost $7.75 per square foot. What will Julie pay to put new carpet in her bedroom?

A. $174.38
B. $87.19
C. $1569.38
D. $784.69

32. Find the surface area.



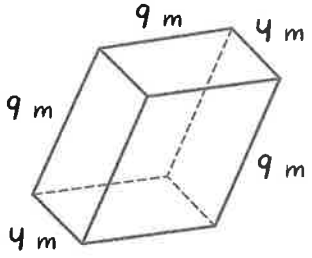
A. 38.7 cm^2
B. 19.35 cm^2
C. 34.8 cm^2
D. 22.99 cm^2

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

33. You have a small business where an entire room needs to be painted neon green. This means you must paint the concrete floor and the ceiling as well. If the paint cost $6.93 a gallon and the room is 20 ft long, 13 ft wide and 11 ft high. How much will it cost to paint the entire room if each gallon covers 178 ft^2 of wall?

A. $48.51
B. $1246.00
C. $111.35
D. $178.00

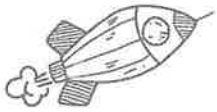
34. Find the volume of the figure below.



A. 729 m^2
B. 64 m^2
C. 11,664 m^2
D. 324 m^2

BRAIN HUNTER

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

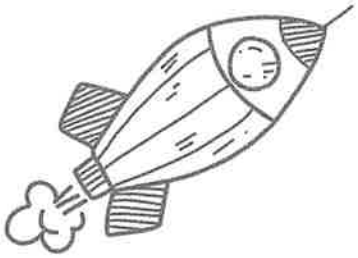


35. Find the Mean Average Deviation of the data set 9, 7, 11, 10, 7, 8.

A. 8.67
B. 1.33
C. 7
D. 9

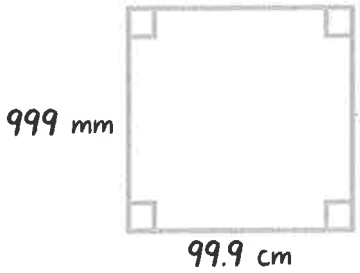
36. Find the range of the data set 3, 5, 7, 8, 9, 11, 15, 16, 20, 21.

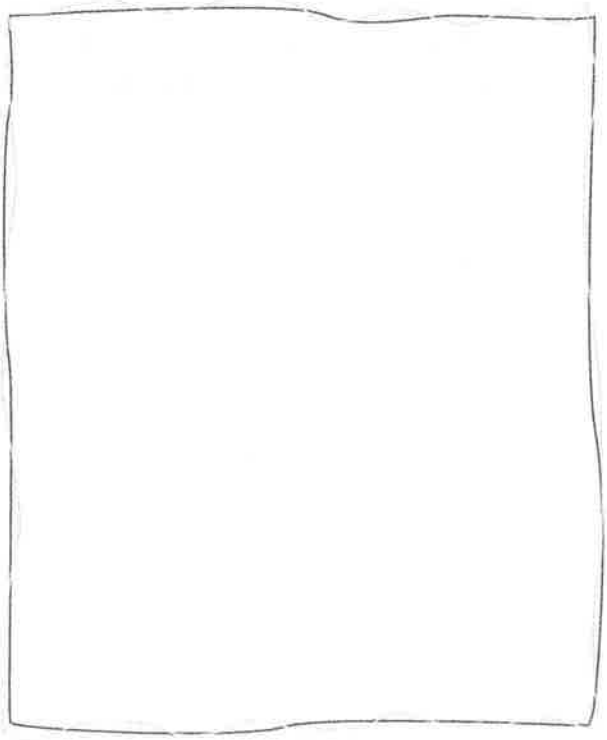
A. 18
B. 10
C. 5.2
D. 11.5



PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

37. The following pizza was cut into four square pieces. What is the perimeter of one of the four pieces?



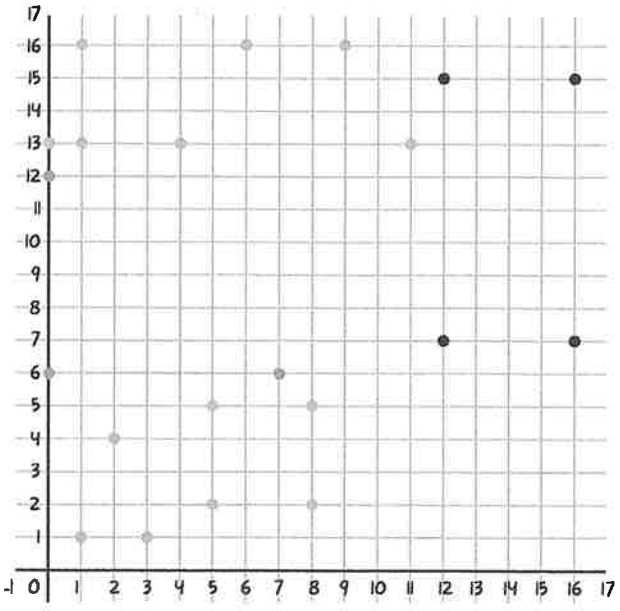


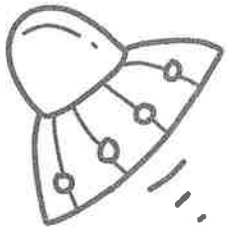
A. 99.9 cm
B. 999 cm
C. 199.8 cm
D. 2495.003 cm

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

38. What is the sum of the area of the polygons formed by connecting the dots for:

Green Coordinates (1, 1) (3, 1) (2, 4)
Black Coordinates (12, 7) (16, 7) (12, 15) (16, 15)
Red Coordinates (0, 6) (0, 12) (7, 6)
Green Coordinates (4, 13) (9, 16) (11, 13) (6, 16)
Blue Coordinates (0, 13) (1, 13) (1, 16)
Blue Coordinates (5, 2) (8, 2) (5, 5) (8, 5)





PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

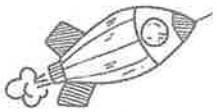
39. Construct the net of a triangular pyramid.

40. Use the number line to represent the following: $3 \div \frac{4}{8}$.

41. A store sells 5 lemons for $1.00. If Leslie buys 15 lemons, use the double number line to show how much money she spends.

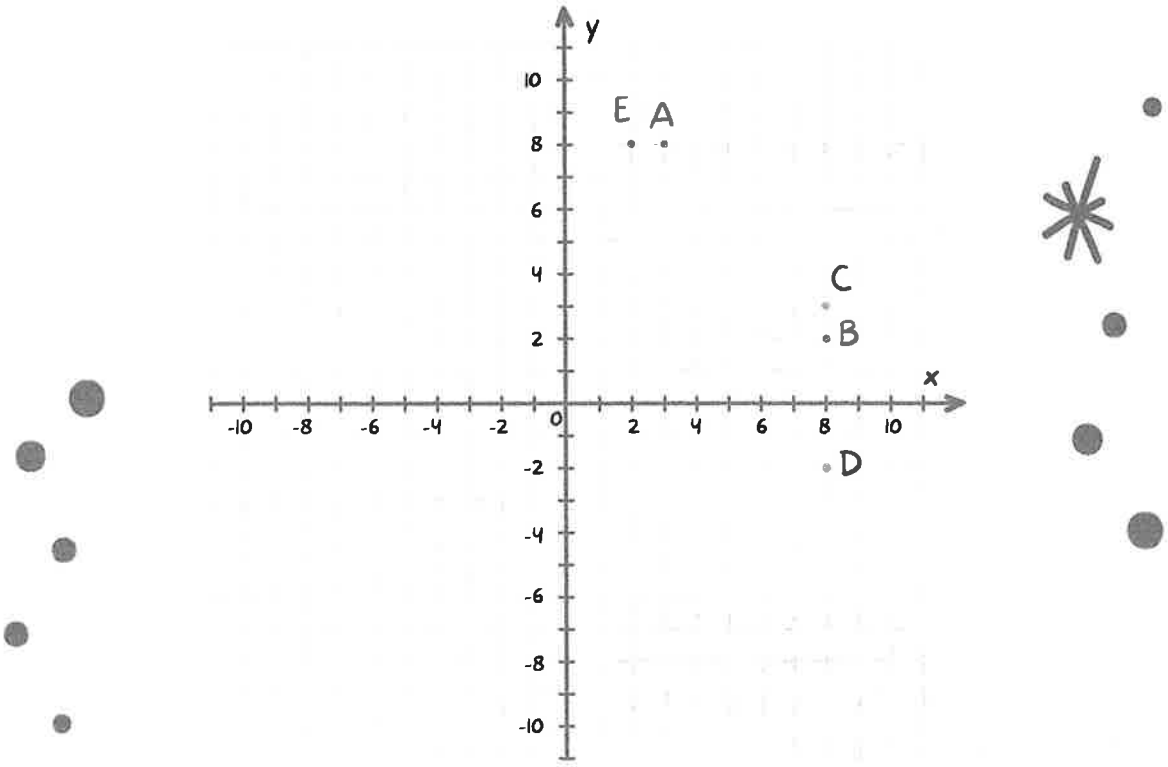
BRAIN HUNTER

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



Use the graph below for questions 42 - 48.

Give the coordinates for each point on the coordinate plane.



42. A(____ , ____)

43. B(____ , ____)

PRACTICE TEST
SECTION 1: MULTIPLE CHOICE

44. C(____ , ____)

45. D(____ , ____)

46. E(____ , ____)

47. Name the Quadrant Point D is located.

48. Name the Quadrant Point C is located.

49. Plot the numbers on the number line. -7, -1, 0, 5, 10

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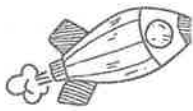
PRACTICE TEST
SECTION 1: MULTIPLE CHOICE



50. Use the data below for questions to complete steps I - IV. The following is a list of average temperatures in states that grow a type of plant.

50	42	100	45	68	32	100
67	61	31	75	39	62	64
49	55	51	33	99	96	64

I. Find the mean, median, and 5 number summary.
II. Construct a boxplot.
III. Complete the frequency table.
IV. Construct a histogram.